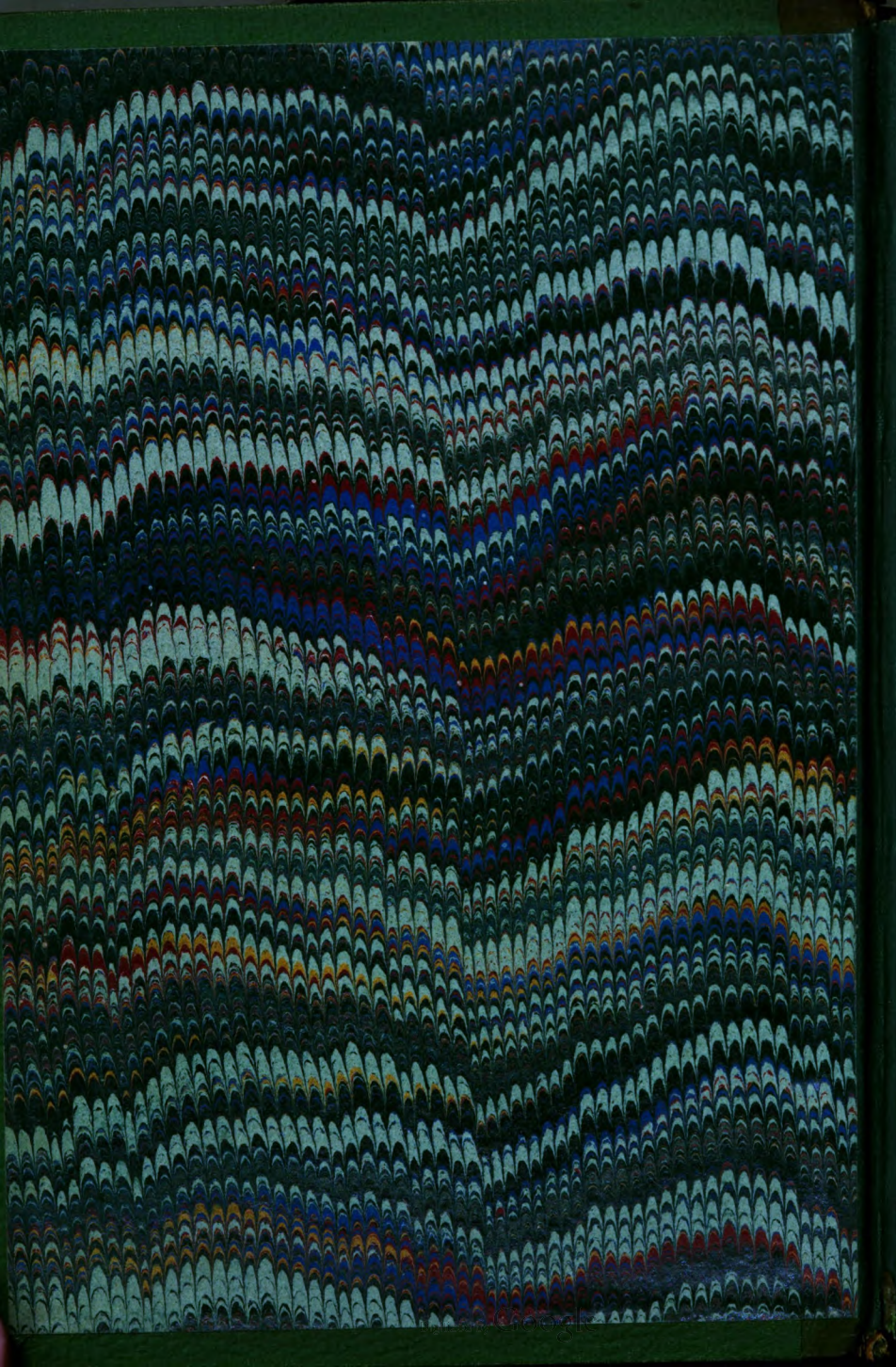






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THE AMATEUR'S ROSE BOOK.





NOISETTE ROSE.-MARECHAL NIEL.

THE
AMATEUR'S
ROSE BOOK

COMPRISING THE
CULTIVATION OF THE ROSE

IN THE OPEN GROUND AND UNDER GLASS: THE FORMATION OF THE
ROSARIUM: THE CHARACTERS OF WILD AND GARDEN ROSES:
THE PREPARATION OF THE FLOWERS FOR EXHIBITION: THE
RAISING OF NEW VARIETIES: AND THE WORK OF THE
ROSE GARDEN IN EVERY SEASON OF THE YEAR.

BY
SHIRLEY HIBBERD,

AUTHOR OF "RUSTIC ADORNMENTS FOR HOMES OF TASTE," ETC. ETC.

A NEW EDITION, REVISED, ENLARGED,
AND
Illustrated with Coloured Plates and Wood Engravings.

LONDON:
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Dedication

TO THE

REV. S. REYNOLDS HOLE,

OF CAUNTON MANOR, NEWARK,

*Founder of the National Rose Show, and Author of
"A Book about Roses."*

DEAR FRIEND,

The association of your name with my labours, which your acceptance of this Dedication ensures, enhances my enjoyment of Rose growing, and brings a welcome and pleasant presence to the very front of my book.

Accept herewith my hearty thanks, and renewed assurances of esteem, and believe me,

Yours fraternally,

SHIRLEY HIBBERD.

STOKE NEWINGTON,

March 31st, 1874.

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THE AMATEUR'S ROSE BOOK.



INTRODUCTION.

"As late I rambled in the happy fields,
What time the skylark shakes the tremulous dew
From his lush clover covert ; when anew
Adventurous knights take up their dinted shields ;
I saw the sweetest flower wild nature yields,
A fresh-blown musk rose ; 'twas the first that threw
Its sweets upon the summer : graceful it grew,
As is the wand that Queen Titania wields.
And, as I feasted on its fragrancy,
I thought the garden rose it far excell'd ;
But when, O Wells ! thy roses came to me,
My sense with their deliciousness was spell'd :
Soft voices had they, that with tender plea
Whisper'd of peace, and truth, and friendliness unquell'd."

KEATS'S "*To a Friend who sent me some Roses.*"

// **T**HE FIRST EDITION of the "Rose Book" was published in 1863, and immediately acquired a degree of popularity which far exceeded the author's expectations, seeing that it had to compete with a number of works on the same subject written by veteran and famous cultivators. Its success was probably in some part due to the fact that it revealed many important points of rose culture that the nurserymen writers carefully concealed, under a mistaken idea that to make them public would be to deal a death-blow to the trade in roses. It may be safely affirmed, however, that during the ten years' existence of this work there have been more roses made and sold in this country than in any previous ten years, or even twenty years ; and it is not unreasonable to expect that the demand for roses will be still further increased, as one of the consequences of the publication of the present improved edition of

B

the Rose Book. During the period in which this little work has been circulated, and several times reprinted, in its original form, the art of rose-growing has advanced considerably, and the number of its practitioners has been vastly increased. It would be base disloyalty to the Queen of Flowers to attribute the ever-widening enthusiasm of the amateurs of roses to any other cause than the inspiration of her beauty; but it will be acknowledged by all her discreet adorers that recently-published books and papers on roses have tended to direct enthusiasm wisely, and present useful barriers against possible follies and excesses. To one amongst many who have written with no less judgment than earnestness—the Rev. S. Reynolds Hole, of Cauntton Manor, Newark—must be awarded the hearty thanks of all who recognise in elegant pastimes and recreative pursuits powerful agencies for the advancement of intelligence and the exaltation of the moral nature. Mr. Hole's "Book about Roses" is one of the most cheerful and useful gardening books ever written, and as essential to the rose-grower's library as the rose is to his garden; for, after all, flowers are comparatively worthless unless we talk about them, read about them, dream about them, and bring them at times into the very midst of our intellectual being. It follows that for the enjoyment of roses there must be books about them; and it is a happy circumstance that the founder of the National Rose Show—the hero of a hundred fights, in which he has achieved a succession of honours as the champion of the first lady in Flora's court—has, in a most delightful book, given his friends of the rosy persuasion the whole of his experience and thought upon the subject. The books on roses written by trade growers, though eminently serviceable and admirable as literary enterprises, are, as remarked above, defective in respect of certain matters which it is hard for those who sell to regard as necessary and proper information for those who buy roses. Hence the importance of similar books recording the observations and experiences of cultivators who have no interest whatever in the sale of roses—who, in fact, belong to the category of buyers, and enjoy perfect immunity from the fears and jealousies that trade interests are calculated to suggest and sustain. And yet the immensely increased and increasing trade in roses has been chiefly promoted by amateur writers, who, while giving publicity to every detail of production as well as of cultivation, have actually improved the trade, and

made the sale of roses ten times, perhaps a hundred times, more profitable than it was before. It will be seen that a considerable portion of the book now in the reader's hands is occupied with directions and advices intended to facilitate the production of roses, a part of the general subject of rose-growing very scantily touched upon in other works. These directions and advices represent the author's latest conclusions on the several methods of producing new and multiplying old varieties, after five-and-twenty years of practice and experiment on his own ground, at his own expense, and with no other object in view than to promote by precept and example, the cultivation and enjoyment of the rose, as the noblest of all our garden flowers. But this is not the only feature to which attention may be directed for the purpose of securing for the "Amateur's Rose Book" a renewal and continuance and extension of the favour bestowed upon it on its first appearance. It will be seen that the cultivation of roses in towns; the vices of fashion in rose culture; the rules by which roses should be classified and judged; and the employment of roses for various decorative purposes, have severally received attention, and that not one of the latest "notions" on rose-growing, whether good or bad, but has been made the subject of a note for the expression of an opinion or the relation of an experience. In the chapters that follow there is little to amuse the mysterious individual who rejoices to be recognised as "the general reader;" but there is much, it is hoped, to encourage and assist the amateur rosarian in his delightful occupation, and there may be something that will tend to the improvement of a taste that is well founded, though by various accidents diverted from its proper course. Any way, this is believed to be a "practical" book, and therefore it can have no attractions for the idler in the rose-garden, who probably thinks more of himself than his roses. As for the history of the rose, that is a subject worthy of the most elaborate and careful treatment, and will someday, doubtless, be worthily written. But there will not be attempted in this work even the shadow of a sketch of the history of the flower; for in truth we have so much to say about selecting, growing, improving, multiplying, and exhibiting roses, that we regret having occupied so much time already with these prefatory observations.

CHAPTER I.

THE FAMILIES OF WILD ROSES.

IT is impossible to assign every garden rose its proper place in relation to the recognised species of wild roses. The origin of many garden roses is utterly unknown ; a considerable proportion of the whole are the representatives of a succession of crosses between species and hybrids and varieties, and hence bear more or less resemblance to several of the more distinctive types. It is the tendency of floriculture to obliterate species, to the regret, and sometimes the chagrin, of the botanists ; and the results of this tendency are markedly manifested in the various-named roses that obtain our attention on account of their beauty, without any regard whatever to their genealogy or blood relationships. The botanists have no good reason to complain. Our roses may baffle their endeavours to trace them to their several origins, but they do not supplant the species anywhere except in the garden : in the great world without the wild roses grow as freely and bloom as bravely as ever, and in every part of the northern hemisphere they who love the roses of the hedgerow, and the wood-side, and the breezy upland waste, have but to search for them in the season, and enjoy them to their hearts' content. When the botanists speak of the florists as destroyers of types, they talk sentimental nonsense, which is the more nonsensical because the complainants profess to be animated by lofty scientific motives, and to be strangers to sentiment altogether.

The order ROSACEÆ is one of the most important sections of the vegetable kingdom, for it comprises not only the roses proper upon which we are about to discourse, but all our hardy fruits, such as the apple, pear, plum, peach, raspberry, and strawberry, besides a number of hardy ornamental trees and herbaceous plants, such as the thorn, the cotoneaster, the spiræa, and the potentilla. The best arrangement of the families of roses is that proposed by the late Dr. Lindley in his

"Rosarum Monographia," which will be followed here in all its essential features, for the very good reason that it affords the very best scientific basis available for a review of the affairs of the rose-garden, although fifty years have elapsed since it was compiled. There are about thirty species of roses known to botanists, and they are all natives of the northern hemisphere, and very nearly all are hardy in the milder climates of Britain, those that are not hardy needing only slight protection against the destructive weather of the late winter and early spring. The several species are, by the careful botanist whom we take for our guide, arranged in eleven families, as follows :—

1. FEROCES.—This is a small group of roses bearing formidable armour, and hence their collective designation. They are bushes of from three to six feet high, deciduous, producing large and showy flowers of a deep red or purple colour. *Rosa ferox*, the "hedgehog rose," a native of the Caucasus, is a low shrub with thick, hoary branches, densely armed with permanent prickles; the flowers are handsome, but scentless, and there are no double varieties of it known. *R. Kamtschatka* has deciduous spines and large deep red flowers. A very nearly ally of the last (and possibly identical with it), is *R. rugosa*, a Japanese rose, and described by Thunberg and Siebold. Of this a handsome variety has been introduced by M. Linden, under the garden name of *R. Regeliana*. It is a half-rambling shrub, rising three feet high, producing numerous large deep-red or crimson flowers, in grand terminal corymbs, succeeded by brilliant scarlet hips of the size and shape of the pretty Siberian crab. The French raisers are expecting to obtain, by the aid of the pollen of this splendid single rose, new characters to add to the attractions of the garden varieties. The Feroces, in their present rustic condition, are only adapted for hedges and for the rougher parts of shrubberies, but for such purposes are extremely showy, and as hardy as any roses known.

2. BRACTEATÆ is an interesting family, characterised by their floral leaves or bracts, downy stems and fruits, and bright green leaves, which last through the winter. The type is *R. Bracteata*, obtained from China by Lord Macartney in 1795. It is a lovely, glossy-leaved bush, producing white flowers in great abundance late in the season, these being followed by

large globose orange-red fruits. There are three good varieties in cultivation—*Macartney*, semi-double, pure white; *Alba odorata*, white, with yellow centre; and *Maria Leoinda*, a pretty plant, of half-climbing habit, producing delicate blush flowers. This is well adapted for a rockery in a sheltered situation. *R. microphylla*, the small-leaved rose, introduced from China in 1823, is a compact bush, with beautiful small, finely-toothed leaflets, and solitary double, rosy-pink flowers. Of this species there is a series of varieties in cultivation, the principal of which are *Rubra-plena*, deep red; *Rugosa*, crimson; the *Old Purple*, deep carmine; and *Triomphe de Macheteaux*, double white, tinged with rose. *R. clinophylla* is a small shrub producing solitary white flowers and roundish fruit.

3. CINNAMOMEÆ.—The roses of this group mostly have long, narrow leaflets, flowers of medium size in clusters, and spherical fruits, that lose the calyx leaves ere arriving at maturity. *R. Cinnamomea*, the Cinnamon Rose, is a native of Europe. It grows to a height of eight to ten feet, forming a stout stem, and has leaves composed of fine oblong leaflets, which are of a grey-green on the upper and glaucous green on the under surfaces. The flowers occur solitary or in clusters of two or three; they are of a pale carmine colour. *R. Lucida* is distinguished by the brightness of its leaves; *R. laxa* is the loose or spreading rose; and *R. Carolina*, the Carolina rose, inhabits marshy ground in North America. It has long stipules, the flowers are in clusters, of a rosy carmine colour, decidedly effective. *R. rapa*, the Turnip rose, another American species, is destitute of spines; the leaves acquire a reddish tinge in autumn; the flowers are in clusters, of a bright red, pink, or white, and often quite double. Its name refers to the spherical form of the fruit, which is crowned with calyx leaves in the manner of a turnip. It is a good garden rose for masses in the wilder parts of the garden. *R. Maialis*, the May rose, a native of Europe, produces small flowers of a pale rose colour, which are followed by spherical orange-coloured fruits, which do not lose their calyx leaves. *Du Saint-Sacrament* is an old and scarce variety of the cinnamon rose, with pleasing lilac-coloured flowers.

4. PIMPINELLIFOLIÆ.—The members of this family are called Burnet-leaved roses. They are characterised by their numerous leaflets, which vary from seven to fifteen, some of them have

and some have not spines, and they all retain the calyx leaves until the fruit arrives at maturity. *R. Spinosissima* is the Scotch rose of gardens, the leaves of which resemble those of the pretty salad herb called Burnet. It is a small shrub, with small solitary flowers of a white colour, slightly stained with yellow in the centre. Of this species there are many varieties in cultivation, comprising the *Double white*, *Double yellow*, the colours of which correspond with their names; *Estelle*, and *Stanwell's*, rose-coloured. *R. Sulphurea* is a bush, armed with spines and bristles; the flowers are large and double, and of a fine yellow colour. It appears to require an extremely moist soil. *R. alpina* is found growing wild in the higher regions of the south of Europe; it has a few purplish spines, the flowers are carmine-coloured, the fruits orange-red. From this species, by crossing with the China roses, have been obtained the *Boursault* group, which are mostly smooth-stemmed, the habit climbing, and the flowers are large, double, and of various shades of crimson and purple.

5. CENTIFOLIÆ.—The Hundred-leaved rose, represents an interesting and important group, from which many a gem "of purest ray serene" has been obtained to give light and lustre to our garden. The type of the group is *R. Centifolia*, the Cabbage or Provence rose, which has large, unequal prickles, pendulous flowers, and oblong fruit. It is a native of Persia, and is probably the rose referred to by Pliny in book xxi. of his Natural History (18, 25, 72, 73). Miller describes it as *R. Provincialis*, and pronounces it the most beautiful of all roses. A variety, said to have originated in Switzerland, and named *R. Centifolia muscosa*, is the "moss rose" of our gardens, the distinguishing character being the result of hypertrophy of the hairs and segments of the calyx. The most important allies of *R. Centifolia* are *R. Gallica*, the French rose, which has erect flowers and globose fruit; and *R. Damascena*, the Damask or monthly rose, characterised by producing its flowers in corymbs, with reflexed sepals followed by elongated fruit. By the crossing and intercrossing of these a large and valuable series of garden roses has been established, the more important sections of which comprise the *Provence*, or *Cabbage*, the *Moss*, the *Hybrid Provence*, the *Damask*, the *Gallica*, the *Pompon*, and the *Portland* roses. The most distinct varieties in these sections are enumerated in the nursery catalogues, and are absolutely essential to the compre-

hensive rose-garden, although they all flower early and flower only once, and that most sweetly.

"Would not this, sir, and a forest of feathers—if the rest of my fortunes turn Turk with me—with two Provincial roses on my razed shoes, get me fellowship in a company of players, sir?"—*Hamlet*, III., 2.

6. *VILLOSÆ*.—The Downy roses are characterised by straight prickles, persistent sepals, and a thickened disk. In a severe criticism of Lindley's arrangement this group would probably fall to pieces, and some of the fragments would coalesce with *R. canina*. The only important species in the family is *R. alba*, the white rose, which has rugose glaucous leaves, large and showy flowers, which vary in colour from white to rose, and oblong scarlet fruit. The named varieties constitute a beautiful group, and the best of them, as, for example, *Madame Legras*, *La Seduisante*, and *Diademe de Flora*, are not surpassed by any roses of any class in cultivation.

7. *RUBIGINOSÆ*.—This is a distinct family of sweet brier roses, characterised by the glandular under surface of the leaves, bristly prickles, and persistent sepals. *R. rubignosa* is the sweet brier, a native of Britain, usually met with on chalky soils in the south of England. This is a favourite everywhere for its pale carmine flowers and the sweet odour it emits when the leaves are slightly bruised, but too rugged a plant for a prominent position in the rose-garden. It is the "eglantere" of Chaucer—

"That gave so passing a delicious smell,"

and the "eglantine" of the later poets—

"The leaf of eglantine, whom not to slander,
Out-sweetened not thy breath."

—*Cymbeline*, IV., 2.

The eglantine of the French is *R. lutea*, a very pretty brier, with dark shining leaves, and large, cup-shaped yellow flowers. From this have been obtained the *Capuchin brier*, which has flowers yellow outside and reddish brown within; the well-known *Harrisoni*, with double yellow flowers, once famous in English gardens; and *Persian yellow*, a fine double rose, still held in high esteem.

8. *CANINÆ*.—The Dog roses are the most important of all

the families recognised by botanists, for not only do the several species and varieties constitute the chief splendours of the rose-garden, but the formidable brier of the hedgerows supplies roots and stems for the sustenance and bold presentation of the choicest roses of the same family that have been obtained by long-continued and painstaking selections. It only needs a slight stretch of fancy to compel Shakspeare to witness that in his day the production of standard roses was understood, for he speaks of Pyramus as

“Of colour like the red rose on triumphant brier.”

—*Midsummer Night's Dream*, II., 2.

The common Dog rose, *R. canina*, is the most common of all our native species, and, owing to its wide distribution, a very variable plant; for it is influenced by widely different conditions of soil and climate. Its most constant characteristics are hooked prickles, flowers pale rose or white, calyx segments pinnate, and not remaining attached to the fruit. The form of the fruit is ovoid-oblong, the colour bright scarlet. Amongst its many varieties, none have acquired renown as garden roses; but hitherto the rosarian has never bestowed a thought on the possible value of its pollen, though for ever absorbed in admiration of the actual value of its hungry roots and stalwart stem. *R. Indica*, the common China rose, betrays its relation to the British brier in all its more prominent features, but is more refined throughout, and its varieties present peculiar attractions to the florist. *R. Odorata*, the fragrant China rose, is (if, as a species, it exists at all) more brier-like in habit, forming long, stout rods, with hooked prickles, and showing on the sunny side of the stem those stains of purple which are always to be found on the young shoots of the dog rose. From the supposed *odorata*, crossed, perhaps, with *Indica*, the Tea rose, *R. Indica odorata*, has been derived; but whatever its origin, it takes the highest rank in the order of merit of all the roses in the garden, not excepting even the ever-useful and most popular of all roses, the so-called Hybrid Perpetual. The tea roses are for the most part tender in constitution; they have long shoots, with hooked spines, shining leaves, composed of few leaflets; large flowers, usually pale yellow or pale rose-coloured; and roundish fruit, of a reddish-scarlet colour. They are valued for their robust growth, rich glossy green foliage, and lengthened season

of blooming, and for their lovely flowers. They bewilder the susceptible rosarian by their exquisite elegance of form, delicacy of colour, and peculiarly refreshing fragrance, which, though likened to that of a newly-opened sample of the choicest tea, is really distinct, and, we will venture to say, unlike all other odours, whether of flowers or leaves, and the most refined and blessed fragrance obtainable in the garden of the world. When from some other branch of the patrician family of roses a flower shall be obtained to surpass in all the proper qualities of a florist's flower that gem of gems, the *Souvenir d'un Ami*, we will revise the foregoing observations, and, in the interest of truth alone, modify the eulogy. The Tea rose was first seen in this country in 1793, since which date successive importations from China, and the persevering efforts of rosarians in raising seedlings, have resulted in securing for our enjoyment an immense number of named varieties, sufficiently distinct for horticultural purposes, and sufficiently alike to render them representatives of the highest qualities known amongst roses.

The Ever-flowering Rose, *R. semperflorens*, known also as the Bengal Rose, *R. Bengalensis*, is in several respects distinct from the true China and Tea Roses. It is less robust in growth, it loses its stamens and petals at the same time, and the ovaries average fifteen in number; those of the Tea Rose averaging forty to fifty. Another and still smaller species of this group is *R. Lawrenceana*, so named in honour of Miss Lawrence, who published a series of admirable drawings of roses. It is generally known as the Fairy Rose, and although grown in great quantities by florists who send plants to market, and more particularly by those who provide Covent Garden with perennial streams of floral wonders, it is rarely seen in private gardens, and still more rarely properly cultivated by amateurs. Its tender constitution renders it unfit for the open ground, and as a pot plant it requires more constant attention than amateurs or their gardeners can find time and mindfulness to bestow.

From the several reputed species thus briefly described have been obtained hybrids and crosses innumerable, and these are classified in accordance with their most obviously distinguishing features. The most important section, as already remarked, is that known as the *Tea Rose*, for which, in the first instance, we are indebted to China, where, we may presume, it originated.

The *Bourbon Rose* is occasionally classed as a species under the name *R. Bourbonica*, but it is probably a hybrid from *R. Indica* and the Red Four Seasons, a branch of the Damask race that was once famous in English gardens. The original plant was found growing in a hedge in the Isle of Bourbon; but of its origin nothing is known. By various crosses of the Bourbon, the ever-flowering and other members of the family *Caninæ*, the *Hybrid Perpetuals*, have been obtained, and, as a rule, the best of these present the characteristics of the Bourbon type more strongly than any other, although in certain sections of the group, the Damask type is indicated as having taken part in the production of the perpetual race. Another distinct cross, or rather hybridization—for the parents were far separated in specific characters, has been accomplished between the Tea or Bengal and the Musk Rose, by M. Noisette, a French gardener settled in America, the product being the *Noisette Rose*, noted for its free growth and abundant flowering, and especially for its late flowering; but is not held in high repute for either quality or fragrance. The first Noisette Rose was sent to France in 1814, since which time a distinct and large section of Noisettes has been established, many of which partake largely of the character of the Teas, while others lean towards the crimson China. *Marechal Niel*, a true Noisette, represents the highest quality of this race, and leans directly to the Teas; *Aimee Vibert* is a fine example of abundant flowering, and is withal a lovely rose; this leans to the Musk Rose: the pretty little *Fellenberg*, poorest in quality of any, but flowering most profusely, in colour and habit indicates a near relationship to the *semperflorens* type.

9. *SYSTYLÆ*.—The members of this family differ in but few and slight particulars from the last, but one prominent characteristic is their confluent styles; whereas in *Caninæ* the styles are free. *R. systyla* is one of our finest wild white roses; its shoots rising twelve feet high, and its flowers appearing in great plenty in June and July. *R. arvensis*, the Field Rose, produces slender trailing stems, armed with very few prickles, and pretty white flowers from June to August. It is probably one amongst many roses worn as badges during the wars of York and Lancaster. The *Ayrshire* Rose of gardens is an improved form of *R. arvensis*. The Evergreen Rose, *R. sempervirens*, is a native of the South of Europe.

This is characterized by its persistent leaves and small round orange-coloured fruit. The Multiflora Rose, *R. multiflora*, is a native of China and Japan; the flowers are small and occur in dense clusters, the calyx leaves fall early, and the fruit is pear-shaped and of a bright red colour. The most important section in this family, however, is *R. moschata*, the Musk Rose, a native of the Northern parts of Africa, and now pretty plentifully distributed in the North of Europe. It is a robust habited shrub armed with hooked spines, producing white flowers in clusters; the calyx leaves fall early; the fruit is small, ovoid, and of a deep red colour. Its rich perfume constitutes an important article of commerce in the countries where it attains its highest perfection. It has been usefully employed by hybridizers in raising new varieties, and has no doubt contributed in a material degree to the formation of the important family of Noisettes. *R. setigera*, also known as *R. rubifolia*, is a native of North America, and the parent of the comparatively valueless *Prairie Roses*, which are characterized by semi-double pale rose or blush-coloured flowers, and smooth fruit about the size of a pea.

10. BANKSIANÆ.—There are three species ranked under this head, and they are all of secondary importance. The true Banksian Rose, *R. Banksia*, is a native of China, and decidedly tender in this country, a fact which in a peculiar manner militates against its popularity, for it is a charming rose, rising to a height of thirty feet in a warm situation, and producing showers, or rather sheets, of elegant double sweet-scented nodding flowers of a white, yellow, or salmon colour. *R. lævigata*, also known as *R. sinica*, the Georgian Rose, is a lovely climber with glossy leathery leaves, large solitary white flowers, and oblong spiny fruit, which carries its calyx leaves until full ripe. The Anemone-flowered Rose, *R. anemonæflora*, produces small double flowers that bear a near resemblance to double anemones. It scarcely belongs to this family, but there appears to be no better place for it.

11. BERBERIDIFOLIA, the Barberry-leaved Rose, is a pretty bush, producing yellow flowers. Its native country is the North of Persia, where it grows abundantly in salt marshes, and is used as fuel. It is scarcely known in gardens, but has nevertheless produced, by crossing with *R. clinophylla*, a pretty yellow hybrid named *Hardyi*.

CHAPTER II.

THE FAMILIES OF GARDEN ROSES.

IT WILL probably be convenient to many readers of this work if we here present a brief summary of the requirements of the rose as a garden flower, leaving for treatment in subsequent chapters those special points of rose culture which are calculated to interest the advanced amateur rather than the novice in rose-growing. The task before us is to present a practical treatise of so concise a nature as to be worthy to be designated "rose-growing in a nutshell," and which shall be so complete that those who desire simply a display of roses at the least possible cost of time and trouble shall find herein all the information needful to put them in the way of complete success.

Huc vina, et unguenta, et nimium brevis
Flores amœnos ferre jube rosæ ;
Dum res, et ætas, et sororum
Fila trium patiuntur atra.

The rose, in all its varieties and forms as a garden flower, requires a deep, rich, moist soil, a pure air, shelter from strong winds, and the most complete exposure to the sunshine. As a royal flower, it needs royal sustenance, and a starving system of treatment will never bring forth good roses, but will probably, instead, ensure for the practitioner disappointment, vexation, and loss. The mention of "varieties" and "forms" will perhaps perplex the beginner for a moment, and it is our duty, therefore, to explain at once the signification of these terms. There are many distinct families of roses, differing more or less in character and constitution, and these several families comprehend a number of varieties, which also differ more or less amongst themselves, though bearing a general family likeness. Now, it will happen often that where certain classes of roses, or even certain varieties of one class, thrive

exceedingly, others refuse to grow, or at the best grow weakly, and flower seldom. The beginner desires to be guarded against encountering a sudden disappointment through an injudicious selection of roses; for the first condition of success is to plant only such as are likely to prosper in the circumstances of soil and climate at command for rose-growing. We shall speak of the forms of roses before treating of the families and varieties. These may be roughly classed in two divisions—1. Standard, or Tree Roses; 2. Dwarf, or Bush Roses. Each of these may be again divided into two sections—1*a.*, Standards budded or grafted on English briars; 1*b.*, Standards on their own roots; 2*a.*, Dwarfs budded or grafted on Italian briars; or, 2*b.*, Dwarfs on their own roots.

STANDARD ROSES are noble objects when well made and judiciously managed, but ugly, unthrifty, and indeed disgraceful things when unsuitable sorts are selected for standards, or when they are subjected to a starving system of treatment. Nine-tenths of all the mistakes made by amateur gardeners are in connection with standard roses. They buy, and plant, and wait, and never see the beauty of the rose. They find their gardens filled with ugly sticks, which occasionally flaunt a ragged rose, that proves to be worse than no rose at all; and yet those same trees would have made handsome heads and myriads of noble flowers had they been properly treated in the first instance. Planting standard roses on grass, or in little beds on the margin of the grass, is usually the first step to failure in rose-growing; for the English brier is a hungry plant, and requires more food than it is possible for it to obtain when so situated. The standard rose requires a deep loam, well dug and plentifully manured, and will thrive on a well-cultivated clay, or on good peat. But it will scarcely live on chalk or sand; and, as a rule, whatever the soil may be, if the atmosphere of the spot is constantly loaded with coal smoke, it is not advisable to plant standard roses. As standard roses are in high favour with amateurs who do not make a study of rose-growing, it appears desirable to offer a few directions for the formation of a small rosarium, comprising standards chiefly, with dwarfs for the front row. We will go as far away from the dwelling-house as possible, and mark out a piece of ground open to the sun, and sheltered by a belt of trees from the north. This shall be dug two spits deep, and plenty of good manure shall be incorporated with the soil as the work proceeds. As,

whatever time of year the work commences, the ground must be ready for planting in October, it is a good plan to select and prepare the site as soon as the pressure of spring work is past, say in June, and immediately plant the ground with asters and balsams if flowers are appropriate, or with potatoes, if the appearance of the plot the first season is of no consequence. As we are now to deal with dwarfs as well as standards, it may be advisable to repeat that brier roses, or, in other words, standards, require a good deep moist loam, well manured and industriously broken up previous to planting. A good clay will suit them if there is no stint of labour in deep digging and breaking and manuring. Dwarfs, whether on own roots or Manettis, require a rather light rich loam, but are not particular, provided they can root deep, and are well fed. Nevertheless, the best way to prepare the ground, if it is a rather stiff loam, is to dress the front line where the dwarfs are to be planted with plenty of leaf-mould and rotten manure; and if rotted turf can be spared for it, the stuff will not be wasted. But let no one suppose that roses require elaborate preparations; any soil that will grow a good cabbage will grow a good rose, whether it is a cabbage rose or any other kind.

To obtain suitable trees is a matter involving no difficulty. A fastidious purchaser will manage to see and mark all the trees, and have the sorts according to a list made out beforehand. But there are very few people who have time to spare to buy roses in that way, and an order sent to any of the first-class trade growers, whose names are known well enough, specifying heights and numbers, and leaving the dealer to select the sorts, will be sure to result satisfactorily, and the cost of the whole will be about half what would be charged if the sorts and the trees were selected by the purchaser. We lately made a plantation of the kind under notice. We wrote to a well-known nursery for so many dozen standards, ranging from three to six feet, and said nothing about the numbers required of particular heights or sorts. When they came in, the men went to work in a systematic way. One pruned head and tail, and handed them over; the next placed them in lots as to heights; the next carried them to their places, and laid them in bundles for planting. To have a plantation of roses as true to heights as an architect would require the columns of a portico, is out of the question—it simply cannot be done; but there is no difficulty in arranging them to form a very

regular bank, if a fair proportion of each height is supplied in the first instance. As to arranging the colours, that is of no consequence ; for any rose, whatever its style or colour, will harmonise with any other rose.

The work of planting should be done with care. Fellows who blunder about, and hack and slash with spade and knife, ought not to be admitted amongst roses. They must be handled as old Izaak Walton advises the angler to handle frogs, that is, tenderly, as if you loved them. All the long roots must be cut back ; all the wounded roots must be shortened, so as to remove the injured parts ; there must be no tugging and tearing, and care must be taken not to bruise the bark. In cutting back the heads, it must be remembered that the final pruning is to be done after they are planted ; the cutting back before planting is to render them more convenient for handling, for the nurserymen send them in with all their huge whip-like shoots full length ; it would not do for them to prune them. To say nothing of the time consumed, the process would prune the price out of them.

In planting, the ground should be measured off in lines, and it is best to begin with the tallest. If these average 6 feet high, they must be 5 feet apart in the row, or not more than five and twenty in a run of 100 feet. The next row should be 5 feet removed from the first, and the trees in it should average $4\frac{1}{2}$ feet high, and be put 4 feet asunder. The next row should be 4 feet from the second, and the trees in it should average 3 feet high, and be 3 feet apart in the row. If they are strong-growing sorts, and the soil is good, and the trees have already fine heads, give them a distance of 4 feet apart, and they will then touch each other, and make a solid line of leaf and bloom. The front row should be 3 feet from the last, and the bushes in it 2 feet apart, and set back 2 feet from the edge of the walk. The quickest way to plant is to lay down the line, place the trees, carefully laying out the roots near the surface, throw a little earth over, and tread very lightly, just enough to keep them upright, and so on till the whole are in their places. Then go over them again, tread them firm, and stake them securely, and they may remain for months, if need be, without any further attention. The reason for planting loose in the first instance is this, that when the whole piece is planted you are sure to want to move a few, and make exchanges. It is therefore easy to take out any of them by a mere touch, and

rearrange as needful, and there is no waste of labour. Besides, this sort of work should be done quickly, for we do not get much fine weather at the time for planting roses, and it does them much mischief to lay about: the sooner their roots are covered the better. By the system of merely placing them with a shovelful of stuff over the roots, the whole lot can be got into their places quickly; and come rain, frost, snow, or what else, they cannot suffer; they are safe, and if not finished for a week or two no harm can arise. The sooner the whole job is finished the better; but if every individual tree is finished right out at once, some may suffer through laying about with perhaps their roots not half covered; and at the best it is certain that a few will have to be lifted to get them all in such order as will satisfy an eye at all fastidious about arrangements.

Many years ago we advocated the use of iron stakes for rose-trees. Some growers contend that iron stakes do harm, and they go on using oak stakes instead. Now we are certain, from long observation and experience, that iron stakes do no harm, and that oak stakes, and, in fact, any kind of timber supports, are really injurious, and many a rose-tree is killed by the spread of fungus over its roots, through contact with decaying wood. Once in three years we boil up a cauldron of tar and pitch, thrust the ends of the iron stakes into the fire that boils the pot, and when the ends are rather hot dip them into the mixture. Two coats of paint on the length of the rod finishes them; they can be placed close to the stems of the trees, care being taken in thrusting them down not to drive them through the thick roots near the collar, and when the trees are tied up the stakes are almost invisible.

The pruning can be finished any time before the 1st of March. It may be done as soon as the planting is finished, and before the trees are staked; for although winter pruning is not good for established roses, because it tends to make them grow too soon in spring, roses newly planted have enough check to prevent that, and autumn or winter pruning will not hurt them.

It is of the utmost importance for the full enjoyment of a plantation of roses to have them legibly and correctly labelled. If the calico labels the nurserymen put on are allowed to flutter in the wind all winter, the chances are that the writing will be washed out before spring. Therefore, to complete the labelling

quickly is a matter of considerable importance. There are a thousand ways of forming and attaching labels to trees. Wooden labels smeared with white lead, and written on with a pencil while the paint is soft, answer admirably. Attach these with a copper wire, and take care not to cut the bark of the tree, and leave the wire loose enough for the tree to swell. Once a year look at every label, and keep a list of all the sorts, in which you may make notes of their characters and behaviour.

DWARF ROSES are worthy of more attention than they obtain from amateurs ; for, as a rule, they are considered very inferior things as compared with standards, even if the latter are of the consumptive, bogey, broomstick, worn-out bottle-brush kind frequently met with in the front gardens of suburban villas. Let us plant, say, a dozen of the more robust-habited perpetuals *on their own roots* in a border of deep rich loam, at about five feet apart in a straight line. For the sake of being concise, we will suppose them to consist of such sorts as *La France*, *Jules Margottin*, *Baroness Rothschild*, and *Victor Verdier*. These may be bought, perhaps in pots, and planted in April or May, and have regular supplies of water until July, to promote free growth from the first. Or they may be bought in the shape of strong bushes in October, and be then planted. In the following month of March they should be moderately pruned, but far less severely than it is the practice of gardeners to prune them. Say all the long rods are shortened to one-half their length, and the little twigs that bore flowers last year are removed altogether. By this course of treatment they will in time form large, compact, handsome bushes, producing roses of fine quality in great profusion, and in beauty of contour and richness of bloom probably surpassing by many degrees all the standard roses of the district.

Those mysterious words, "on their own roots," will perhaps perplex the novice, and, therefore, we now return to the simple classification adopted above—2*a*. Dwarfs on Italian briers ; 2*b*. Dwarfs on their own roots. It is the custom of the nurserymen to bud or graft the finer kinds of roses on the Italian or Manetti brier. The buds or grafts are inserted close to the roots of the brier, and the result of good management is the production of free-growing dwarf bushes on foster roots. So quickly may saleable roses be produced by this course of procedure that it is but rarely the trade growers

adopt any other method for raising dwarf roses. As a rule these Manetti roses are comparatively cheap and answer well, because the Manetti stock imparts to the rose grafted on it a free-growing robust habit—in other words, the Manetti carries its roses well. The advantage of employing the Manetti may, for the present purpose, be regarded as consisting in rapidity of growth, in consequence of which flowering bushes of a good size are obtained in less time than if the roses were on their own roots, and the peculiar food-finding nature of the Manetti, which can live and thrive on gravelly, chalky, and other poor soils on which brier roses would pine or perish. For the amateur, the Manetti has one peculiar disadvantage. It is apt to throw up suckers, and if these are allowed to remain, they soon use up all the nourishment collected by the roots, and the consequence is that the rose perishes and the brier takes its place. A plantation of Manetti roses, in which suckers have been allowed to rise unchecked, may thus become absolutely worthless in the course of two seasons; but the mischief is easily prevented by watching for the peculiar blue-leaved growth of the Manetti stock, and cutting away the suckers to the point from which they spring. It is the rule with experienced rosarians to search Manetti roses well in the first instance, for the removal of any buds that appear below the graft, and they are usually planted so deep that the junction of stock and graft is covered with about two inches of soil. The results of such management usually are that there are no suckers from the root; but the rose forms roots of its own, while the deeply-buried roots of the Manetti perish, thus, at last, those which were planted as Manetti roses become Own-root roses.

The last-named are, without question, the best of all roses; but we cannot renounce brier roses, however we may be enamoured of those on their own roots. Own-root roses are obtained by striking buds and cuttings, and by making layers or sowing seeds. When the branches consist of one plant and the roots of another, as must be the case with brier roses, there is more or less of conflict between them; but own-root roses are all of a piece, and roots and branches always agree in their times of growing, and their respective duties to each other. A singular advantage of own-root roses is that if they throw up suckers these are so much gain to the garden, which is a very different case to that of suckers

from briars, that are a nuisance any way, and may prove destructive in the end. Another singular advantage of own roots is, that in the event of a destructive frost, such as, for instance, occurred in the winter of 1860-61, they are likely to suffer only a little injury, whereas brier roses are likely to be killed outright, as actually occurred, and to a tremendous extent, in that disastrous winter. It is worthy of observation that if the frost kills a tree to the ground, the roots may be spared, and may in due time renew the plant. And here we see the difference in value of the two sorts of roses in the event of a destructive frost—those that were on brier stocks are gone entirely, because the suckers will be but worthless briars; but those on their own roots *will be renewed from the roots*, and thus for all practical purposes, they may be considered indestructible. It is an objection to own-root roses that in the first two seasons they grow slowly, and that is the only objection ever raised that is worth the consideration of a reasonable being. They are said to be difficult to produce, but that is untrue, and a trade grower should be the very last to give currency to the ridiculous doctrine that there is any difficulty in obtaining own-root roses from buds or cuttings.

As to the soil required for dwarf roses, those on Manetti stocks will, as above remarked, do pretty well on chalk or gravel, but on such unkind soils liberal preparation should be made for them. All kinds of own-root roses require a deep, mellow, rich loam; some kinds, such as the Moss and Provence, will thrive in poor soils and in a smoky air; the Perpetuals and Bourbons need a thoroughly good soil of a substantial nature; the Chinas and Teas like a rather light soil, such as would be obtained by mixing plenty of old hot-bed manure, road sand, and rotted turf, with well-cultivated garden ground. But at this point generalities appear to be of less use, and it becomes desirable to particularize the treatment required by each of the several groups of roses, not only as to soil and climate, but also as to planting and pruning. For the convenience of the reader, we shall group the garden roses under two great divisions, in accordance with their seasons of flowering, those which flower once being designated Summer Roses, and those which flower more than once being designated Autumn Roses.

1.—SUMMER ROSES.

PROVENCE, CABBAGE, AND MOSS ROSES.—These are all descended from *Rosa centifolia*, and have the same habit of growth, forming smallish bushes, with rather long whip-like shoots, which are armed with both spines and bristles. The commoner kinds are well adapted for town gardens, as they bear smoke well and make a good growth in poor soils, and their flowers are exquisitely beautiful. The better varieties of both Provence and Moss roses, however, require a good soil and a pure air, and should never be planted unless there is a probability of their receiving good attention. They are well adapted to form short standards on the brier, and they make neat bushes on their own roots. They require to be close pruned, every shoot to be cut back to within four or five buds of the base. The trade catalogues contain a section of "perpetual" flowering moss roses, which are thrown into a separate group, because they produce a second bloom. But they are perpetual only in the mind of an interested or very fanciful person, and should not be relied upon for any large supply of flowers in the autumn. These so-called perpetual moss roses are, however, wondrous in beauty, and decidedly more delicate in constitution than the commoner sorts. It is well for a lover of moss roses to obtain a few of the best on Manetti stocks, as they make better dwarfs than standards; but in a clay country brier stocks answer for them admirably.

DAMASK ROSES are characterized by pale green pubescent leaves, which give them a distinctive appearance in the rosery. The common simple Damask or Monthly Rose is a capital town shrub, thriving in any kind of soil, and flowering most profusely. With us it is a glorious weed running wild in the shrubbery, and occasionally required to be forked out with as little ceremony as if it were but couch grass. There are some lovely named varieties of this group in cultivation, all of which make handsome standards for a strong soil, but are not less useful on the Manetti if the soil is poor. They require abundant manuring and rather close pruning. *Rosa alba* is a section of the Damask, and requires the same treatment.

THE FRENCH ROSE.—The beautiful Gallica roses are invaluable for town gardens, and may be grown as either dwarfs or standards in any part of Britain where a rose of

any kind could live at all, for they are very hardy. When grown for the supply of exhibition roses, the brier is the best stock for them ; but as garden roses they are to be preferred as bushes, because of their upright growth, which renders them ungainly as standards. Though hardy and capable of bearing ill usage, they will abundantly repay for good culture. When grown for exhibition the trees should be severely disbudded early in June, and supplied with liquid manure until the bloom is over. They require rather close pruning, say to be cut back to within eight or nine buds of the base of the strongest shoots, and to within two buds of the base of the weakest. It is a peculiarly good quality of the French roses, that the cut flowers bear carriage well.

HYBRID CHINA ROSES.—These are the produce of crosses with Chinas, Bourbons, and other kinds, the general likeness being Chinese. They have ample, luxurious, smooth, glossy foliage ; the branches are generally long, the flowers of fine quality, and abundantly produced. The more robust and free-growing of the class make most elegant standards, and are equally adapted for poles and pillars. They do well on the brier for standards, but when grown for pillars, or to train on trellises, are to be preferred on the Manetti. They require a rich soil, and abundance of water from April to the end of June, and to be liberally manured every autumn. In pruning, the sorts which make long rods must be very moderately cut back, and superfluous rods must be cut clean out to afford air and light for the rods left for flowering. Young plump rods that rise from the root should be encouraged, and old rods should be cut out to make room for them. The short, twiggy growers may be rather closely pruned.

HYBRID BOURBON ROSES.—These require the same treatment as the Hybrid China, and, generally speaking, may be closely pruned with advantage, say, as a rule, to within five or six buds of the base of each shoot, and at the same time all the spurs that have produced bloom must be removed entirely. They may be pruned with other roses in the month of March ; but, if in a sheltered situation, an earlier bloom may be obtained by pruning in November.

AUSTRIAN BRIER.—This little family comprises a few curiosities, and the two best hardy yellow roses known, namely, *Persian Yellow* and *Harrisoni*. They do well as standards on the English brier, and make good wall and pillar

roses on their own roots, though rather too rustic in leafage for an elegant trellis. To ensure a plentiful bloom of the glorious Persian yellow, thin out the head carefully, but do not cut any of the shoots that are well placed for flowering. If every year a few shoots are cut out to the base, and the remainder left long, a plentiful supply of golden goblets will be the result. *Harrisoni* may be slightly pruned and carefully thinned, but close pruning is not to be thought of. The common *Austrian briers*, with yellow and copper-coloured flowers, are useful for bouquets and decorative purposes, being small, neat, and very distinct.

BOURSAULT ROSES are probably the produce of a cross between the Alpine and the China roses. The varieties are well adapted for tall standards and for walls and pillars, as they grow freely, and present a gorgeous display of colour when in flower. They are mostly smooth-stemmed, the shoots long and pendulous, the foliage most luxuriant. They require a rich deep soil, and to have no more pruning than suffices to keep them in order, and provide for the access of air and light to all the growth equally. If they are much shortened the bloom will be seriously diminished.

AYRSHIRE ROSES have no claims to attention as exhibition flowers, but they are remarkably hardy, thrive in any soil, and run mad with delight if allowed room to ramble. They are equally valuable to form large weeping standards, or to cover banks, rustic arbours, and to festoon dead trees and archways. When worked on tall English briers, a rich deep soil must be found for them; but when on their own roots any soil will do that is not waterlogged. They should be pruned only for the purpose of keeping them sufficiently thinned and orderly, for to be severely cut back is the worst thing that could happen to them short of being put upon the fire.

SCOTCH ROSES.—These are neat-growing, “burnet-leaved” roses, adapted for the hedgerows and shrubbery only, where they present their pretty wild flowers in great plenty early in the spring. Amongst the varieties, mention may be made of *Stanwell's* as affording a second supply of its pretty pink flowers; and *Sulphurea*, the yellow Scotch rose, which produces large double flowers of the most beautiful colour. They do best on their own roots, and require no pruning. They all bear seed abundantly, and therefore may afford amusement in cross-breeding. We would suggest a cross of the yellow

variety with the far-famed *Marechal Niel* as likely to result in something good.

SEMPERVIRENS or EVERGREEN ROSES are related to Ayrshires and Multifloras. They are characterised by ample dark-green foliage, which is retained the greater part of the winter, and large clusters of small but extremely pretty flowers, which are mostly pale in colour. They are hardy, and in no way particular about soil or climate. As climbers, they are invaluable; and, if carefully managed on the English brier, they make grand weeping standards. One of this group, *Triomphe de Bolwyller*, is equal in beauty and fragrance to the famous *Noisette Lamarque*.

MULTIFLORA ROSES.—The type of this group is a native of China, a climbing shrub, with flexible branches, armed with hooked prickles arranged in pairs. The flowers occur in dense clusters; they are small, very double, and usually of a bright rose colour. The finest of the group is *Grevillei*, which grows with great vigour, and produces vast sheets of beautiful pink and blush-coloured flowers. All the multiflora roses are tender, and therefore should not be planted on cold or badly-drained soils or in exposed situations. In the south and west of England they are invaluable as pillar and wall roses, or to form very large weeping standards.

BANKSIAN ROSES.—The Banksian rose is of Chinese origin, and has a very Chinese complexion and constitution. It is almost spineless, very smooth in leaf and stem, in growth a climber, blooming most profusely; the flowers occurring in large clusters, very double, and agreeably scented. This rose was introduced about seventy years ago, and was in due time "dedicated" to Lady Banks by the late Robert Brown, of the British Museum, a botanist who did the State some service, and was but poorly appreciated in his day. Mr. Fortune, in 1850, brought several fine varieties from China for the Royal Horticultural Society, and these, having been distributed, have in a material degree contributed to the popularity of the group, which is highly esteemed by all true rosarians. *Rosa Banksiæ*, the supposed type of the group, is closely related to *R. lævigata* (or *R. Sinica*) of gardens; but is probably a distinct species. *R. lævigata*, the three-leaved China rose, produces large, white, solitary flowers, which are succeeded by elliptical orange-red muricate fruit; but the Banksians produce their flowers in clusters, and the fruit is a small globose black

berry. All the true Banksians are sub-evergreen, with glossy leaves, a disorderly habit of growth, and produce many clusters of small, beautiful flowers, in colour white, yellow, buff, and citron. They are tender in constitution, and hence require warm walls and a rich, dry, warm soil. At several of the stations on the South-Eastern Railway may be seen superb examples of Banksian roses, growing, we believe, on the chalk, the warmth and dryness of which is perhaps more favourable to them than its chemical composition. It is but little pruning they require, and the best time to set about it is immediately the bloom is over; then all gross shoots should be cut out, but none of the twiggy branches should be shortened, for it is on these the flowers are produced. If these twiggy branches get crowded, a sufficient number should be removed to allow free access of light and air to those that are left; but there must be no rash thinning, or the next season's flowers will be simply pruned away. Strange to say, these disorderly-growing roses make useful pot plants, and they are particularly well adapted for covering the back wall of a greenhouse facing south, but in that case they must be planted in a good border of rich light soil, eighteen inches deep, on a dry bottom.

HYBRID CLIMBING ROSES are Multifloras, or Sempervirens, or Boursaults, or Chinas, more or less, and therefore it is difficult to speak of them as a group. However, there are in cultivation a few strong-growing and extremely handsome climbing roses that do not well drop into any of the strictly circumscribed classes; and we make a class for them as a matter of convenience, because we cannot leave them out in the cold. *Madame d'Arblay* and *The Garland* are the best of the group. They grow vigorously, and are to be valued for covering walls and trellises and pavilions. They must have a rich deep soil, and require thinning rather than pruning, the aim of the cultivator being to ensure a constant succession of strong rods from the root, the older rods being removed to make room for them.

2.—AUTUMNAL ROSES.

DAMASK PERPETUAL.—This nearly extinct class of roses should find in the heart of the rosarian a warm corner, because of their splendour when planted in masses, for they are in truth genuine bedding roses, and bloom superbly from July to

October; their colours rich, their odour spicy and refreshing. They all do well on the Italian brier, or on their own roots; and they make good standards on the English brier. As own-root roses, they are invaluable for forming large and showy groups, and, as they stand smoke well, are adapted for "sensation" beds in the London parks. The Perpetual Damask roses form compact headed standards, but on account of their moderate growth, are better adapted to form dwarf bushes. They require a rich soil, and liberal watering during the summer, and to be rather closely pruned at the end of March or early part of April.

HYBRID PERPETUAL.—This class is like Moses' serpent, it swallows up all the rest; or, rather, it would do so, were there not always a few resolute rosarians blessed with large and eclectic tastes to save the others from the total eclipse that constantly threatens them. Of their pedigrees, who shall tell? "Oh," says this amateur, who has reflected but little, "here you are—seedling from so and so." Yes, and so far good; but whence the origin of so and so? Let oblivion's curtain fall upon the origin of roses, and then we will confess that we cannot trace the perpetuals to their sources. And yet they are of quite modern origin, the first of the race (known to be such), *Princesse Helene*, dating back only to 1837. That China, Bourbon, and Damask, have mainly contributed to the formation of the race, may be clearly deduced from their more prominent characteristics; but we do find in them traces of Tea and Noisette, and in proportion as the blood of the last two tribes mingles with the stream, the roses manifesting it tend to detach themselves from the "perpetual" group, which has a certain unity and family likeness despite its mongrel character. They are for the most part vigorous growers, with purplish stems formidably armed, abundant darkish leaves, and very large double flowers, the colours of which range from flesh or bright rose to the deepest crimson, shaded with black or purple. It may be roughly said that the family cannot boast a single white or yellow rose; but, as a matter of fact, there are now in cultivation several good white varieties, and a yellow one is the perpetual and for ever-renewed promise of the French raisers. Being a very large family, derived from a variety of sources, it admits of being subdivided, according as certain varieties show more of the Damask or Bourbon or China strain. Thus our brave old friend *General Jacqueminot*

has a decided Chinese complexion, and may be drafted to the China group some of these days. So, again, *Madame Louise Darzins* may be relegated to the Noisettes; the almost forgotten *Duchess of Sutherland*, with its pale green leaves, will be consigned to the race of Damasks, and *Reine Victoria* will be pronounced Bourbon.

As the hybrid perpetuals differ in origin and characters, so they differ also in constitution and floral merit. During the past ten years about five hundred new varieties have been put into commerce, and we may estimate that an average of fifty will be added to the lists every year for the rest of our days. Now, as no prudent amateur buys all the new roses, there is a broad margin for selection; and there need be no doubt of this, that a certain number in every batch of novelties may be rejected with the most perfect safety. In making selections our object will be to secure the best; and the question arises, what are the qualities most to be desired in a hybrid perpetual? In respect of the plant, there are two requirements—a good constitution, and a habit of blooming freely in the autumn. Very many so-called perpetuals bloom but sparsely in the summer, and never show a flower in the autumn. Such are not worth growing unless they possess some very desirable qualities of flower; and above all things, the flowers should be very double and elegantly modelled, the globular forms being the best, as a rule. Many varieties that are quite second-rate in respect of habit are grown for the sake of some peculiar quality, and a good example of this is *Louis XIV.*, which is so exquisitely beautiful, “when you can catch it,” that the amateur who loves high quality will be content and happy to have its half dozen flowers, while other varieties, not altogether wanting in quality, are producing their flowers by hundreds.

All the hybrid perpetuals require good culture, for their abundant and long-continued flowering exhausts the energies of the plants, and they must be sustained with a rich soil and periodical manuring, and, in the event of a dry season, abundant watering. To assist in the production of a plentiful autumn bloom, the trees should be slightly and carefully pruned as soon as the first bloom is past, and then the surface of the soil should be covered with a thin coat of fat manure, or with a mixture of guano and wood ashes, and the whole lightly pricked over with a small fork. This treatment will promote vigorous root action, to the great advantage of the

autumnal flowers. The finest flowers come at the tops of the strongest shoots ; and if quality is more desired than quantity, all the buds except two or three so situated should be removed. They do not all make good standards, but they are, without exception, grown as standards in the nurseries, and immense numbers of these are planted in gardens every year, to serve, for all who can learn a lesson, as examples of "how not to do it." The most robust habited sorts are alone adapted for making old bones on the English brier ; but they will all thrive on it for a few years, and give finer flowers than on any other stock, or than on their own roots. Amateurs who grow for exhibition bud their own briers, and, as a matter of fact, it is simply impossible to do justice to the rose in any garden, leaving the exhibition business out of the question, unless there is a plot of ground devoted to briers, and a certain number of them are budded every summer. As for the pruning of hybrid perpetuals, it should be in great part regulated by the style of growth of the several varieties, those that grow most vigorously requiring to be less severely pruned than those that grow moderately. As a rule, however, they bear the knife well, and may be cut back rather close ; but if too severely punished, the first bloom, which is always the best, will be lost. Every amateur who wishes to display a few roses to the utmost advantage, for the enjoyment of those of his friends who are not critical florists, should plant a lot of bushes—whether own roots or Manettis—of the most free-flowering sorts, and never prune them at all. In a few years they will become remarkably handsome, and constitute noble adornments of the garden.

BOURBON ROSES are invaluable for their fine autumnal flowers, and very often the weak-growing varieties produce flowers of higher quality than the more vigorous. These last, however, make fine pillar roses, and are to be preferred for standards. The remarks offered in the foregoing paragraph on the hybrid perpetuals apply in every particular to the Bourbons, and therefore we may at once pass on to

CHINA OR BENGAL ROSES.—These are of comparatively small growth, forming neat dwarf bushes and compact headed standards when budded on short brier stocks. Amongst them are some splendid bedding roses, such as the *Common White China*, *Fabvier*, and *Mrs. Bosanquet*, and a few of them are sweet-scented. The *Common China*, with its profusion of

pretty pink flowers, is invaluable for the margins of large beds and to form neat dividing screens or hedges. When a district once rural is swallowed up by the growth of a town, the common China is the very first amongst all the roses to show that the air has become too impure for many valued garden plants. It is, in respect of coal smoke, a test plant, and we have for that reason called it the *Pilot Rose*. Where the common China thrives, the amateur of roses may take courage, and invest in a rosarium with some degree of confidence ; but if it is found to be always in a poor state, rose-growing must be conducted with caution, for probably the atmosphere is loaded with smoke, and it will be hazardous to invest in roses. The China roses require a rather light soil, rich with leaf-mould and hot-bed manure. In pruning them, the longest shoots must be shortened back to keep the plants in order, but, generally speaking, the less pruning they have the better. The *Fairy* or *Lawrence* rose is too delicate for growing in the open ground, except in localities enjoying special advantages of climate ; but as a greenhouse plant it is one of the most beautiful and interesting of all the roses known.

TEA-SCENTED ROSES.—These are universally regarded as ranking higher than all other roses in the scale of floral excellencies. They are of less value, certainly, than the hybrid perpetuals, because less hardy, and less various in style and colouring ; but their delicate fragrance, refined colours, and highly-finished outlines fill the true rosarian with the highest rapture, and engage him to bestow upon the tea roses the best of his attention, and the largest share of his love. To grow tea roses is indeed an object worthy the ambition of the most ardent horticulturist—the more to be esteemed, perhaps, because it is attended with difficulties. The shallow pretender who thinks to accomplish wonders without first preparing his mind and hands for the task, will surely be disappointed ; for it is to skilful management alone that these coy and capricious flowers make the response that is desired. They appear to have been designed by nature to furnish the highest test of skill and patience in rose culture, and to afford constant evidence of the fact that the cultivation of roses does not consist in merely buying the plants and sticking them in the ground, and then pruning them with a knife and fork, according to the plan of the jobbing gardener, who thinks that trees of all kinds should be cut down and done away with.

The Tea roses have been known in this country since 1793, when an English amateur named Parsons could boast of possessing it. In 1803, Mr. Evans introduced two or three varieties; in 1809, Sir A. Hume brought home the old blush-coloured variety; in 1824, Mr. Parkes introduced the yellow; and since then the number has increased considerably, both through successive importations from China and the raising of new varieties from seed in this country and in France. One, the most elegant and useful of the class, *Devoniensis*, was discovered growing in a garden in Devonshire by the late Mr. Pince, of the firm of Lucombe, Pince, & Co., and was at once secured for the purposes of commerce.

In constitution the Tea roses vary considerably, the very famous *Gloire de Dijon* being as hardy as any rose in our gardens, while *La Boule d'or*, *Canary*, and others, are so tender that in the climate of London it is impossible to grow them well without the aid of glass, and even in the south of England they suffer in severe winters. The prevailing characteristics of the group are the production of long rods armed with hooked spines of a brownish or purplish colour; the leaves large, glossy, rather distant; the flowers large, semi-double, borne on long foot-stalks, and hence often presented drooping—an attitude favourable to their protection from wind and rain, though not desirable as regards their appearance—and roundish, reddish scarlet fruit. The colours vary from white to citron and rose pink, and the odour they emit may be likened to that of the finest sample of tea newly opened; say, for the sake of being precise, it is a sublime edition of the odour of first-rate orange-scented Pekoe.

To grow these roses well, a warm soil and a sheltered position are required; but a few of the most robust, the names of which are given in the lists at the end of this work, may be grown in the open ground in all parts of England south of the Trent, and beyond that line will require the protection of a wall. The weak-growing kinds, and especially those producing yellow flowers, require the protection of glass; and the truth must be told, that to grow a good collection of Teas there must be a spacious cool greenhouse, as well as an out-door rosery. A south wall may be richly adorned with the vigorous growing Teas, which answer better on the English brier than any other class of roses, because, perhaps, of their near relation to it in vigour and constitution, for they belong to the same

natural family of roses. The moderate growers make fine beds when grown on their own roots ; and if a severe winter should kill them to the ground, they will be renewed from the roots if the beds are protected with moss or any other kind of dry litter, laid on quite loosely. They may all be grown as standards, but for this purpose the most vigorous growers are to be preferred ; and if there is any fear of losing them in the winter, they may be lifted in November, and be planted in damp earth in a shed until the month of March, when they may be again planted. If it is not convenient to lift them, they may be protected with branches of brake or gorse, or even spruce, tied about their heads ; but this should not be put on until December, and should be removed occasionally during mild weather to give them air. It is not desirable to have the Tea roses on Italian briers, because a severe winter will kill them entirely, the roots being, as a matter of course, incapable of reproducing them. But for pot culture Teas on this stock answer well, and may always be procured ; for the nurserymen lose no opportunity of turning to account the profitable Manetti.

When grown on English briers, the soil should be a deep, well-manured loam, or a well-worked clay ; but when on their own roots they require a decidedly light, rich soil, such as may be secured by incorporating plenty of leaf-mould or rotted turf and old hotbed manure with a deep, well-cultivated loam. Copious supplies of water should be given in the growing season, and an established plantation may be greatly assisted by plentiful waterings with liquid manure, say the drainings from a dung-heap, diluted with soft water to the colour of the palest pale ale. To obtain large flowers, thin away all the buds except those at the tops of the strongest shoots. Such sorts as *Souvenir d'un Ami* and *Souvenir d'Elise* will, if kindly treated, produce flowers measuring a foot in circumference, with not a shadow of coarseness in them. Indeed, some of the very finest varieties will show green centres if they are not well fed.

To prune these roses requires a careful hand. The whole of the growth may be shortened back in the month of March, but the ripest and best-placed rods must be left a considerable length, and those that are not well placed should be cut out, or cut hard back to a bud so situated that a suitably-placed shoot may be expected of it. In the course of the summer a

few very long rods will be produced, and a certain amount of twiggy growth. The latter may be left alone, but the long rods should have their points pinched out as soon as they begin to get firm; and this proceeding will promote the production of a plentiful crop of side shoots, bearing an immense number of the loveliest of flowers.

NOISETTE ROSES date from 1814, when Phillipe Noisette sent from America to his brother, Louis Noisette, a rose of his own raising from the Musk rose, crossed with the pollen of the Tea rose. The Noisette roses now constitute a small and somewhat distinct group, the proper characteristics of which are the production of long rods armed with hooked thorns, a plentiful and beautiful glossy leafage, and an immense profusion of flowers in large clusters. Those charming varieties, *Aimée Vibert*, *Ophirie*, and *Caroline Marniesse* may be regarded as typical Noisettes; but *Marechal Niel*, *Lamarque*, and *Triomphe des Rennes*, which we must class as Noisettes having much of the Tea character; and the pretty *Fellenberg*, with its brilliant crimson flowers, is very much of a China in constitution. They are all rather tender, but, generally speaking, the entire group may be grown as standards in the open ground, or with the aid of a wall, in any garden south of the Tweed; and a few of them, such as *Aimée Vibert*, *Jane Hardy*, *Réve d'Or*, *La Biche*, and *Celine Forestier* are as hardy as the hybrid perpetuals. The robust growers make fine standards on the brier, and superb pillar and wall roses on the Banksian, which is also a good stock for the more delicate habited of the Teas. When on their own roots they make nice beds, though rather straggling in growth. In pruning they should be well thinned out, as they always throw out more shoots than are wanted to make good heads, unless they are trained in to a wall full length, in which case it will be necessary occasionally to remove an old shoot and replace it with a young one. In respect of shortening the shoots left, it must be done with moderation, for severe pruning will never suit Noisette Roses.

MUSK ROSES.—Whenever the literary history of the rose shall be written, the Musk rose, *Rosa moschata*, will furnish the subject for a chapter on Feasts of Roses, and perhaps another on the fables of the East, in which the rose holds a conspicuous place. The Musk rose is undoubtedly that which give its characteristic hues and odours to the celebrated "Gul



BOURBON ROSE.—REV. H. DOMBRAIN.

Reazee," or "scattering," which forms the subject of many a Persian lay, and is introduced with the most refined taste in the last and lightest and fancifullest of the stories in Moore's great poem, "Lalla Rookh." It is impossible, indeed, to make even the slenderest acquaintance with oriental romance without observing that the Musk rose is a truly classical flower; less famous than the Lotus, because less associated with superstitious rites and transcendental analogies; yet in another sense more famous, because more completely associated with the industry and pleasures of the people. It is probable the "Gul sad berk," or rose of a hundred leaves (*Rosa centifolia*), furnishes the principal part of the otto, or attar, which is so celebrated in Eastern commerce; but in many districts the Musk rose takes its place, and acquires an equal fame as a source of wealth with that it otherwise enjoys as a source of imagery, allegory, and fanciful satire. According to Forster, the roses of Kashmire are the most celebrated in the East for brilliancy of colour and delicacy of odour, and thence we are wafted by the light-hearted poet to witness the festival of the scattering:—

"Who has not heard of the Vale of Cashmere,
 With its roses the brightest the world ever gave;
 Its temples, and grottoes, and fountains as clear
 As the love-lighted eyes that hang over their wave?"
Moore's "Light of the Harem."

The supposed association of the rose and the bulbul, or nightingale, forms the subject of a thousand gay fancies and pictures and dreams. Jami says, "You may place a hundred handfuls of fragrant herbs and flowers before the nightingale, yet he wishes not in his constant heart for more than the sweet breath of his beloved rose." In the second part of the "Veiled Prophet" occurs that well-known and exquisitely musical and tender lyric—one of Moore's happiest efforts:—

"There's a bower of roses by Bendemeer's stream,
 And the nightingale sings to it all the day long;
 In the time of my childhood 'twas like a sweet dream
 To sit in the roses, and hear the bird's song.
 That bower and its music I never forget,
 But oft when alone, in the bloom of the year,
 I think, Is the nightingale singing there yet?
 Are the roses still bright by the calm Bendemeer?"

D

Having indulged a sprit of discursiveness so far, let us wind up this part of the subject with a genuine Persian fable, which may any day be used to illustrate the Scripture text, "A little leaven leaveneth the whole lump." A traveller, in passing through a country in Persia, chanced to take into his hand a piece of clay which lay by the wayside, and to his surprise he found it to exhale the most delightful fragrance. "Thou art but a poor piece of clay," said he; "an unsightly, unattractive, poor piece of clay; yet how fragrant art thou! how refreshing! Whence hast thou this fragrance?" The clay replied, "I have been dwelling with the rose."

The *White Musk* is one of the famous old English roses, quite uncared for by our amateurs, but much prized in many a cottage and farm-house garden. This is a free-growing rose, the flowers of which exhale a delicious fragrance in the cool of the evening, and thus very appropriately adapt themselves to the fancies of the poets, who picture it as the favourite flower of the nightingale. The treatment required by these roses is that recommended for Noisettes, which they closely resemble both in their habit of growth and style of blooming.

MACARTNEY ROSES.—The true Macartney rose, *Rosa bracteata*, is a pretty single flower, with evergreen and glossy foliage. From this a few varieties have been raised, bearing the general designation of Macartney roses. Among the best of these is *Rosa Hardii*, a hybrid between a variety of bracteata and the single yellow Persian. This is a rather tender yellow rose, with evergreen foliage, worthy of culture in the greenhouse or orchard-house. *Maria Leonida*, with delicate blush flowers, is tolerably hardy, and is a pretty rose for a rockery or bank in a sheltered position.

SMALL-LEAVED ROSES.—*Rosa microphylla*, the small-leaved rose, introduced from China in 1823, bears a close resemblance to the Macartney, and is believed to be one of its hybrids. Of the Microphyllas, *Rubra plena*, deep red, with prickly calyx, and *Rugosa*, with fine large crimson-purple flowers, are the only kinds that are worthy of attention. To do justice to these roses—which are in their way truly beautiful—they must, if grown out of doors, have a warm wall and a dry border. They require scarcely any pruning, and grow with vigour, though not to a large size. When grown under glass, their beautiful evergreen foliage is preserved in all its proper

freshness, and adds very greatly to their value. To improve this race should be the object of every genuine lover of the rose.

Oh, how much more doth beauty beauteous seem,
By that sweet ornament which truth doth give !
The rose looks fair, but fairer we it deem
For that sweet odour which doth in it live.
The canker-blooms have full as deep a dye,
As the perfumed tincture of the roses ;
Hang on such thorns, and play as wantonly,
When summer's breath, their naked buds discloses ;
But, for their virtue only is their shew,
They live unwoo'd, and unrespected fade ;
Die to themselves : Sweet roses do not so,
Of their sweet deaths are sweetest odours made ;
And so of you, beauteous and lovely youth,
When that shall fade my verse distils your truth.
—*Shakspeare's Sonnets, LIV.*



CHAPTER III.

FORMING THE ROSARIUM.

THE formation of the Rosery, Rosarium, or Rose Garden, claims attention first amongst the many practical matters that are now before us. As the rosarium may be very humble or very grand, may suit the means of a bank clerk or gratify the ambition of a horticultural mogul, this chapter must be comprehensive, and deal with matters of taste and opinion, as well as matters of fact. It must be admitted, at the outset, that a rosarium worthy of the name is a good feature in a garden, and, as a rule, will prove to be the most popular of all distinct features, not excepting even the American garden, which should be indescribably gorgeous in June; or the Geometric Bedding scheme, which should be tastefully strong in colouring during July, August, and September. But it must also be admitted, and in the interest of thousands of amateurs whose hearts are larger than their purses, the admission should be made here at the outset of our practical work, a rosarium worthy of the name is not absolutely necessary for the intellectual study and tasteful enjoyment of roses. We may cover walls, pillars, verandahs, arches, arbours, and fences with climbing roses; we may mix standard roses with the rhododendrons and deciduous shrubs in beds and borders; we may enliven the lawn with beds of dwarf roses, and appropriate a greenhouse to tea roses, and thus have a feast of roses comprising a number of distinct and delicate dishes, presented in convenient and agreeable succession, and yet lack, O genius of propriety! the pretentious thing properly and pleasingly designated a Rosarium! There must be a bit of ground, and some real sunshine, and a little leisure, to make, by the aid of roses, a rosarium; but the amateur who loves roses will derive entertainment from a small collection, even though the plants may be scattered. Whatever the extent of the rosarium, however, it must be

founded on correct principles, and this will be the first subject of remark.

On the subject of soil we shall now say very little, as that has been considered in the last chapter, at some length. It is, however, proper here to remark that a rosarium of some sort may be made on almost any kind of soil, and in any case the selection of roses must be adapted to the soil, whether it be of the best or the worst possible nature. For example, if we wanted to form a rosarium on sand or chalk we should begin by excavating the soil so as to have it sunk below the general level, and we should carefully avoid brier roses as unsuitable, giving the preference to manetti or own root roses, as preferable for a hungry soil; and amongst the classes we should give preference to the moderate rather than the rampant growers, for the more robust the habit of the plant, the deeper and richer, as a rule, the soil should be.

As to the climate, the rose is somewhat fastidious, but the worst of climates will produce roses of some sort; and the classes, and even the varieties, should be selected with a view to obtain from the climate, conditions of temperature, humidity, and exposure, the best possible results in the way of roses. All the high-class roses require full exposure to rain and sunshine, and, to some extent, to all the winds of heaven; but, as a rule, roses of good quality require shelter against the cruel east winds of March and April, and the destructive storms that occur at all seasons. Therefore, in selecting a site for a rose garden, or even a single small bed of roses, aspect and climate must be thought of as matters of primary importance, and the amateur must make the best of the conditions at his command. In districts well planted, there may be no necessity at all to provide shelter especially for roses, and it is well to keep always in mind, that if shaded by trees or walls, or exposed to a roasting heat, or subjected to the constant action of strong winds, roses will not thrive, and, therefore, if the conditions *ab initio* are against them, the conditions must be improved. The protection afforded by walls is better than none; but belts of shrubbery or hedges of beech, hornbeam, arbor vitæ, privet, yew, or holly, are to be preferred both for the good of the roses, and the completeness of the picture they are to aid in producing. Hedges of roses are often recommended for the purpose of a boundary to the rosarium proper, but they are not sufficiently definite, and

something else than roses is required to satisfy an exacting taste. In the scheme of a rosarium there may be provided suitable places for hedges of roses, and truly wonderful those hedges might be if judiciously managed ; but the eye will range beyond them and look for a more distinctive boundary, such as a rich dark line of clipped yew or glistening holly would afford. In selecting a boundary fence we should object to quicks, because they are liable to the attacks of insect pests that also attack roses, and might serve as a nursery to breed destroyers of the rosarian's peace. If the rosarium is not within view from the house, beech or hornbeam may be employed with advantage ; but on the other hand, if the rosarium constitutes a feature in the view from the windows, an evergreen hedge must be adopted, and the best is holly ; but as it grows at the rate of only an inch in a century, yew is usually preferable ; but arbor vitæ is a capital plant for the purpose, as it may be clipped without injury. The cheapest and quickest evergreen fence may be made with privet, but it is not a choice material, and we do not recommend it.

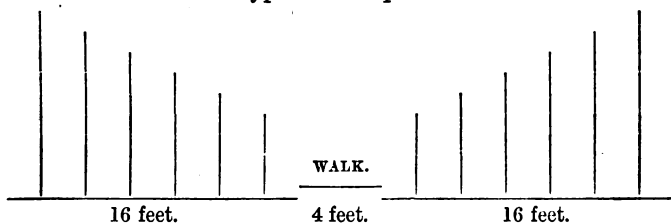
In the disposition of the ground, it must be remembered that roses are thirsty, hungry things, and, therefore, it is not well to raise the site of any of the beds above the general level. As a matter of taste it will generally be found conducive to the enjoyment of roses to have the entire rosarium placed *below* the general level, and to provide a walk round it *on* the general level, to afford an advantageous view of the flowers, and at the same time ensure the concealment of the sticks. And this concession to taste will be good for the roses, unless the ground is actually swampy, for they love to be kept cool at the root in the heat of summer, and apart from matters of taste merely, a sunk rosery is more likely to be a success than one raised above the level. Another matter of importance, already slightly adverted to, is the placing of the rose garden, if possible, in a position where it will be seen only by those who seek for it ; for it is not good for the roses or their owner that they should obtrude upon the scene commanded by the windows, for they are unattractive during eight months out of twelve, and occasionally require attentions that cannot be comfortably afforded them when they are planted on the parade, under the constant eye of the general, whether he is in a mood for reviewing them or would fain forget them in the enjoyment of his matutinal rasher.

In the suburbs of all our great towns we see what comes of the idea that roses should be planted near the house in conspicuous positions, for nine-tenths of all the entrance courts to snug villas are disgraced with things called standard roses, that rise out of the green turf like so many mops, or scarecrows, or machines for sweeping chimneys, and proclaim to the passers by that "roses are *not* grown here, and it is to be feared, never will be!"

Yet one more condition of success in designing and arranging a rosarium. It will be necessary occasionally to go amongst the trees to prune, label, and admire them. Hence the beds should be of convenient size, so that very much of the attentions to be paid the trees may proceed from the proper gravel walk or grass turf, and no temptation be offered to visitors to go into the midst of them to break their branches and tread the soil about their roots into a pavement. To make a rule prohibiting anyone from crossing the threshold to revel in the rosy thicket will be a folly, because the rule will be broken daily all the summer long; but it will be prudent so to dispose of the ground, and the trees, that visitors who love flowers in a general way, and are not severe critics of roses, may see the flowers advantageously and be satisfied. Moreover, it is a fine thing to protect our friends against temptation, especially if consenting to it should prove injurious to ourselves.

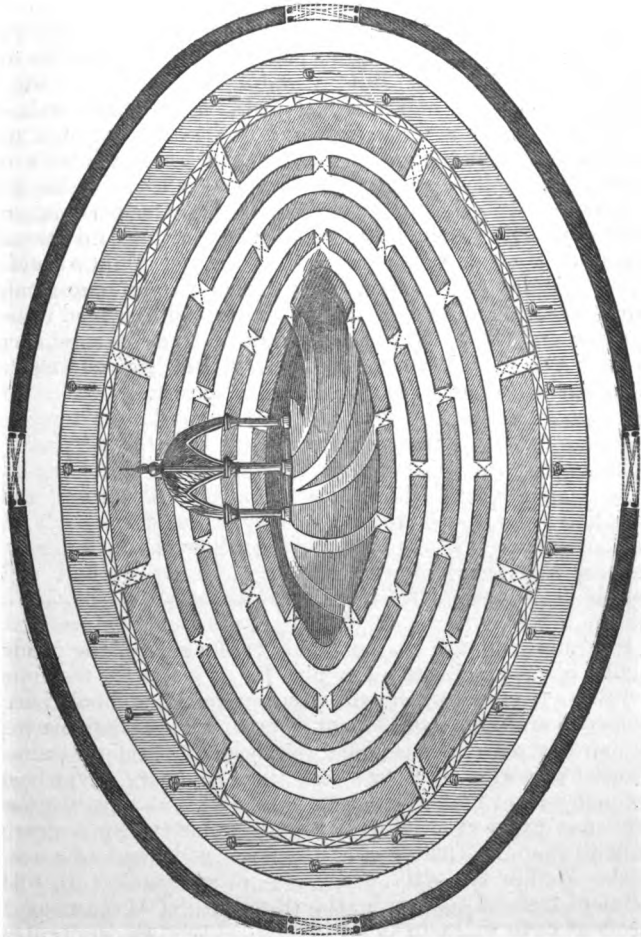
The reader who purposes to lay out a grand rosarium will have no difficulty in finding examples that may be copied, or plans perfectly adapted to the ground intended for the scene of the enterprise. As a matter of general advice, it may be remarked that simplicity is much to be desired in the plan of a roserie, and that the production of a distinct and powerful display of colour will not be sought by a thorough amateur of roses. One of the most enjoyable displays of roses amongst many, large and small, that we are acquainted with, consists of a series of oblong beds, fifteen feet in length by five feet in width, arranged in regular order on the skirt of a wide lawn, and separated from the dressed grounds and the view from the windows by a belt of shrubbery, that also serves to shelter the roses from the north and west; to the east and south they are fully exposed. The beds are planted with showy standards in the centre, and bushes on the outside, and the shrubbery is lighted up with standards, which rise above the hollies, juni-

pers, and berberries, and not only adorn, but visibly connect the shrubbery with the more formal display of roses in the beds. Our own rosery is less happily situated, having no ample space of grass turf to enhance the delicate beauty of the flowers, or encourage idle enjoyment of them. But it is peculiarly convenient, and affords every facility for comparing and criticising varieties, and for alterations *ad infinitum*. There are two broad borders on either side a gravel walk. The borders are sixteen feet wide, and each is skirted in the rear with a stout palisade of posts and wires, on which climbing roses are trained, and behind which is first a narrow walk, and next a high and very thick hedge of privet. The mode in which the trees are planted is sufficiently explained by the diagram. It should, however, be added that, simple as the arrangement is, the scene during June and July is superbly beautiful, and the tall standards are planted sufficiently far apart to allow a careful amateur to thread his way amongst them without doing mischief; and, as a matter of fact, parties of half a dozen critics at a time may be found playing at hide and seek amongst them in the prime of the season, and making a great fuss and clatter about the actual and hypothetical qualities of roses.



It would, perhaps, be too much to hope that the reader should be satisfied without a plan for an elaborate rosarium, and so we offer one which will ensure a broad and bold effect on a comparatively small extent of ground. It is approached by four covered entrance ways, over which should be trained luxuriant growing climbing roses. The boundary might be of common yew or holly, the latter preferable, but slow to grow, and most expensive. Within this boundary a broad gravel walk all round. This should be ten feet wide, and on a dead level. Within this walk a ten feet circle of grass turf, with standard roses of uniform height all round. To get to any of the short cross walks in order to proceed towards the centre,

we should prefer to walk across the turf rather than break its continuity with any intersections of gravel ; therefore, proceeding across this grassy ring, we come next to a circular walk, arched over throughout with climbing roses, or bounded



on both sides with roses trained to chains. This walk should be ten feet wide if arched over, but if open and bounded on each side with roses on chains, it might be, like all the open walks within, five feet wide. Within this we should have a series of eight beds ten feet wide, corresponding with the ten feet circle of turf, but intersected with cross walks, arched over with climbing roses. These beds would be appropriated to China roses, which would be gay with bloom from May to December. After this, still proceeding towards the centre, we have a succession of walks and beds, each five feet wide, all the cross walks arched over, and the arches covered with climbers. The walks might consist of grass turf if on a dry soil, but on a loamy soil such as roses delight in, the well-made gravel walks would be required. On this point it would be well to consider carefully in the first instance, for grass walks would be far preferable to gravel if they could be well kept and used with comfort during the summer months. All these narrow beds should be planted with named roses in groups, and the whole grown as dwarfs. The centre to consist of a mound of about one hundred and ten feet diameter, with walks entered by archways, which would divide the mound into compartments, and give access to the temple on the summit. All these compartments to be appropriated to China roses, each compartment consisting of one kind only. The temple would afford sites for a few pillar roses, and a position from which the whole plantation could be viewed to advantage. If carried out according to these measurements, this rosarium will occupy a space of ground ninety yards in diameter. If we measure off a square in the first instance before drawing the circle, it must contain nearly two acres of ground, but the ground actually covered by the plan will amount to about an acre.

The amateur who designs his own rosarium is advised to avoid as dangerous all intricate figures, for it is difficult to fill them with roses, and it is not well to employ in a proper rosery any of the ordinary bedding plants. So, again, in preparing to make a small plantation, it is advisable to have the whole in a few rather than in many beds, both for the convenience of cultivation and enjoyment of the flowers. Fifty rose-trees in a batch may look well, but ten clumps of five each may have a very paltry appearance unless the rosarium is on so small a scale as to be beyond the reach of criticism. Generally speak-

ROSE GARDEN AT KNOWLE PARK.

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WALK.	
HALF-STANDARD ROSES. WALK.	

ing, beds of five or six feet wide answer best, as when the roses are only four or five rows deep every flower may be seen to advantage, and every tree may be reached without difficulty. In placing arches, bowers, and pavilions, take care not to crowd them so that there is any possibility of the view being obstructed. A few of these objects, at considerable distances apart, will have a much more satisfactory effect than the placing of them so close that the spectator can only see them at a sharp angle. As an example of extreme simplicity, we subjoin a plan of the rose-garden at Knowle Park, near Tonbridge, which is a modification of the rosary of the Luxembourg. It consists of twenty-two oblong beds, three feet wide, with narrow walks between. On each side, extending the whole length of the garden, is a long bed, the same width as the others. These two side beds are filled with half standard roses, and the twenty-two beds are filled with dwarfs upon their own roots. The boundary lines are of box edging, and the walks of gravel.

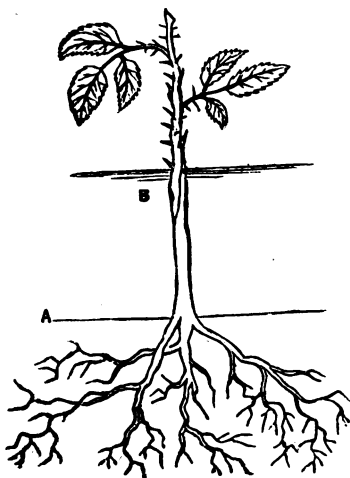


CHAPTER IV.

DWARF ROSES.

DWARF Roses are produced in a variety of ways, and with various kinds of materials. Some few of the methods are of the most simple nature, and demand the least imaginable amount of skill; others are complicated, and require the direction of trained hands and eyes, aided by considerable experience. We shall in this chapter describe as briefly as possible all the modes by which dwarf roses may be formed from plants already in the cultivator's possession, reserving the subject of raising roses from seed for separate treatment.

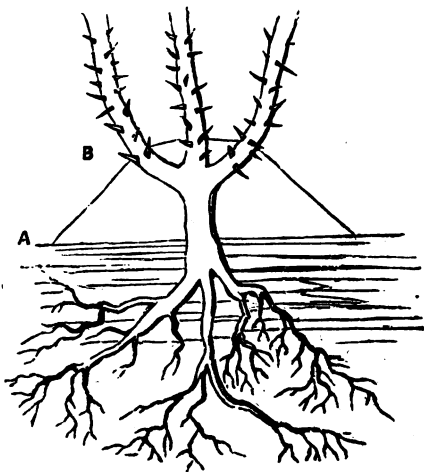
SUCKERS AND LAYERS.—The easiest of all methods of obtaining young plants suitable to form bush roses is to remove rooted suckers from thriving plants of sorts that are worth multiplying. Some kinds form suckers in plenty, others rarely produce them sufficiently far apart from the root stock to be suitable for separation. If a healthy sucker has grown freely all the summer, it may be taken off the ensuing autumn, and, if furnished with a few roots to begin with, will make a nice plant in the course of the next year, if carefully treated. To secure it, first remove the earth carefully from that part of the root stock whence the sucker proceeds; and, having traced it home, remove it by a clean cut with a sharp knife or fine saw. It will be prudent to cut it down to one half, or even to one-third its length before planting it. Select for it a sheltered nook, and plant in good mellow soil, and leave it to its fate. It would be better practice to plant it in a brick pit, with a view to afford it shelter during the first winter; but it will do nearly as well in the open ground if planted rather deeply, and in a spot somewhat sheltered. If it be desired to raise a quantity of roses from rooted suckers, the parent plants may be induced to assist in the operation, even if they are not on their own roots. We will suppose that you are about to plant *Manetti* roses, and wish them to make roots of their own, with a view to increase of stock. You must first search for the "work"—that is, the point where rose and stock are



A. Original ground line.
B. Present ground line.

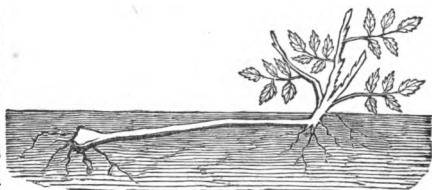
treatment, however, is precisely the same. At the base of every shoot that is so situated as to be easily covered, a notch must be made, and then some fine earth or a mixture of leaf-mould and powdery manure must be heaped up from the original ground line A to cover the notches at B, as shown in the figure. The size of the notch must be proportioned to the stoutness of the wood; it must always be deep enough to remove a portion of the true

united by a kind of scar just above the roots. Just above or at the junction make a slight notch with a sharp knife by cutting out a little wedge-shaped piece (not of the stock, but) of the rose, as at B in the figure. Now plant it so that the notch is below the ground line, and wait for the result. It may be that the rose you desire to multiply is standing in the ground, and has a number of shoots rising from a short stem close to the ground. This is often the state in which we find Manetti roses that were worked too high, or not planted deep enough, in the first instance. The

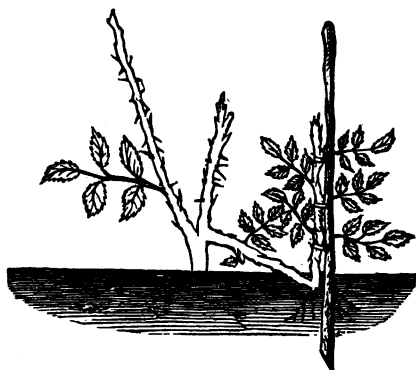


A. Original ground line.
B. Present ground line.

bark, but must never be so deep or so wide as to materially weaken the stem, because, if it should snap in consequence, you will be the poorer instead of the richer for the proceeding. Unthrifty standards may be made to yield own-root roses by laying them down so that the base of every good shoot may be covered with earth, as in the sub-joined rough figure. In resorting to this practice, it will be well for the amateur to bear in mind that the brier will probably die, and therefore, if the shoots do not make roots of their own, they must die also. To make the more sure of success, it is advised to cut notches or tongues in the shoots, and cover with mellow sandy soil.



An enlargement of this simple plan consists in "laying down" the rods in a way to induce them to form roots at any distance from the root stock or "collar." This is called "layering." It may be practised at any season, but the best time is in summer, when the shoots are about half ripe. If done too soon, the soft shoots die, through being placed in contact with the earth; if too late, the ripe shoots are liable to snap away at the base in bringing them down.



First lay down a good rod, and fix it with a strong peg. Now release it, and cut a notch or a tongue on the under side, at any point where it admits of being covered most readily. Now fix it again as before, and heap a little mellow mixture, such as leaf-mould and pulverised manure, over the tongue, and the operation is completed. We have multiplied China roses

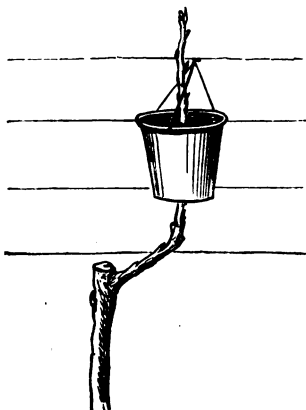
in quantity by a variation of the usual mode of layering.



We first cut a few inches of the softest growth from the point of a shoot, then strip off the leaves half its length, then bend it and thrust it down into a common pot, and fix it with a peg. The pot is soon full of roots; and, by severing the shoot, a detached

and independent plant already potted is obtained, with the least imaginable trouble.

CIRCUMPOSITION.—This is a modification of layering, but instead of bringing the branch to the earth we carry the earth to it. On several occasions we have resorted to this mode to ensure stock of a scarce variety, of which, perhaps, we had command of only one or two plants. We have planted them



near a wire trellis, and instead of pruning the shoots have drawn each through a common flower-pot, which was then fastened to the wire, and filled with fine soil. If kept always moist, the pot is filled with roots in the course of the season, and in the autumn the rooted shoot may be cut through close under the pot, and the pot then contains an independent plant. In this case the cutting of a notch expedites the rooting process, and it is all-important to give water regularly, and in hot weather to clothe the pot with rough moss, which can

be tied on with bast or string. If the shoot cannot be drawn through, break a pot into two equal parts, and bring them

together to enclose the shoot, and tie them firmly. If there is no support for the pot already provided, it may be fixed to a stake, as in the figure annexed. A thrifty bush rose in a pot may be propagated by layering the shoots into pots plunged in the soil all around it. This plan answers well with flexible wiry-branched Teas and Noisettes.

SUMMER CUTTINGS afford an easy and cheap mode of producing dwarf roses on their own roots. There is no prettier practice in all the range of gardening operations than that which is to be described in this section, unless it be the one that follows—the propagation, not from cuttings, but from eyes, or wood buds.

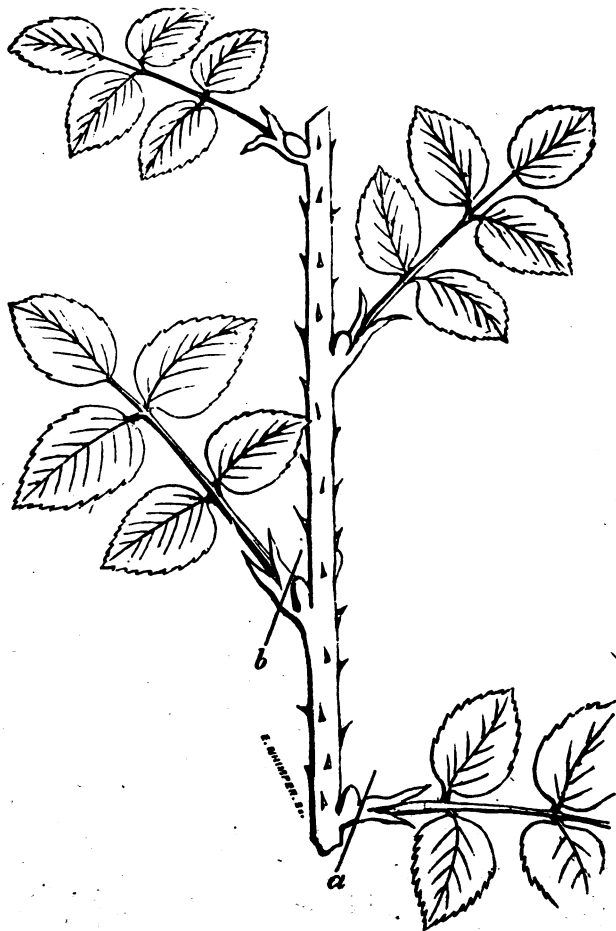


The primary requisites are roses to cut from, and a good frame or pit, and a few bell glasses or earthenware propagating boxes. The thoroughly skilful can do without even these simple appliances; but we advise the beginner to secure the aid of a frame on a half-spent hot-bed, or on a bed of common soil raised above the level, to catch as much as possible of the sun-heat. The cuttings must be kept rather dark, and constantly moist, and rather warm; but they must not be really wet, and they must have a little light, and a strong heat will kill instead of cure them.

It will be convenient to recognise the propagation from eyes concurrently with the treatment of cuttings, because it is good practice to adopt both methods, for the more complete economy of all the wood that can be cut at the time the trees are full of nice half-grown shoots, which we may for general purposes consider to be the last week in June. The first step towards success is to cut judiciously, taking in every case firm shoots of the season, but avoiding always hard ripe wood as unsuitable. The model shoot for cutting is one that carries in the axil of every leaf-stalk a *visible* bud. This is called by cultivators a *pushing* bud. On old wood the buds are sometimes *invisible*, and will not push till the trees are pruned back next season. These are *dormant* buds. As autumn approaches, most of the buds on the upper parts of shoots of the season are invisible, and will not grow at all this season; they are, in fact, formed for next season's growth—and these also are dormant buds. But if we take a strong shoot which towers up

E

above the flowers, and examine it, we shall see that the buds on the shoot are visible, nay plump; and we may guess, if

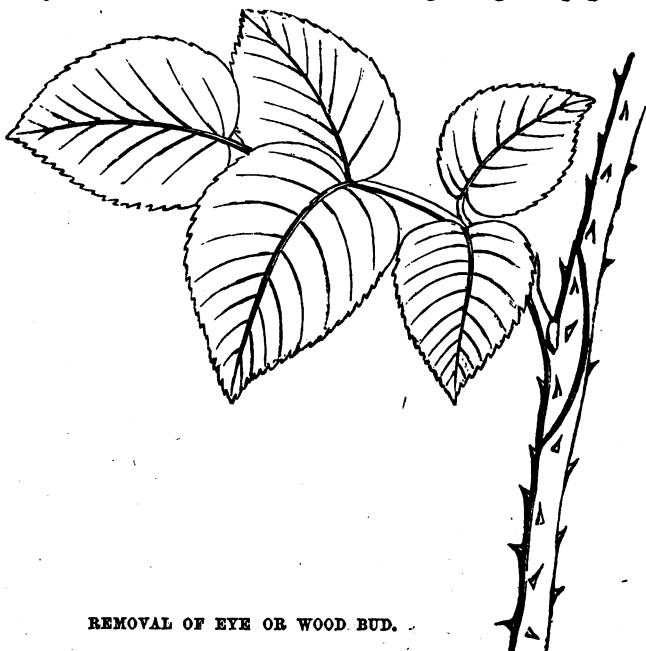


SUMMER CUTTING, WITH PUSHING BUDS.
Leaves to be removed at *a* and *b*.

fond of guessing, that when the July rains come many of those

buds will push and form short side branches with flowers on them. These, then, are pushing buds, and such will best serve our purpose, though dormant buds may be used if none others are to be had, because the treatment will make them push when the proper time comes.

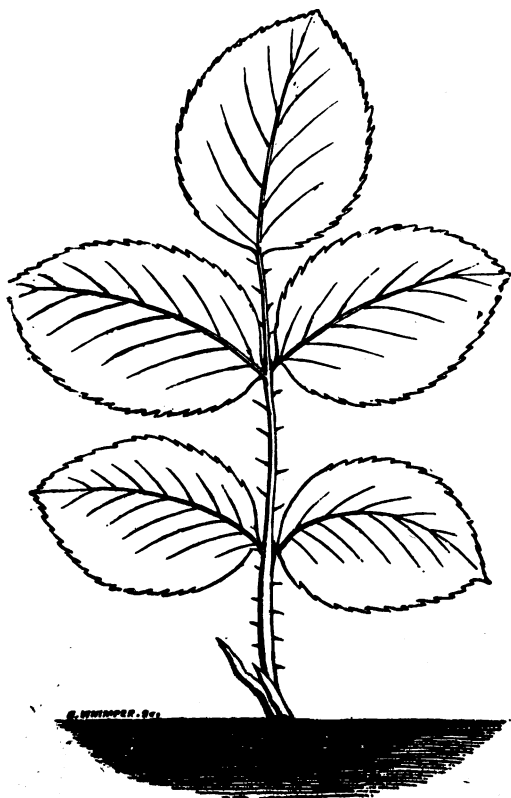
Take the knife and boldly cut away one of the strongest shoots of this year—not to the base, but within a fourth part of its length from the base. You may go quite to the base if you like, but we are thinking of providing you with cuttings without sacrificing the autumn bloom of the roses, and if you leave a fourth part of every shoot you cut, the buds on the part left will provide you with flowers shortly, and the process of obtaining the cuttings will be equivalent merely to a summer pruning. The very soft wood at the top of the shoot is not of much value to a beginner—cut it away, say three joints down. Now cut all the rest to lengths of four joints each, as shown in the engraving on page 50.



REMOVAL OF EYE OR WOOD BUD.

E 2

With the knife remove the lowest pair of leaves by cutting them through as close to the stem as possible without hurting the bud at the base as shown at A and B. You have now the best-sized cutting for a beginner. Prepare as many as you like, plant them all in pans filled with sandy peat or leaf-mould, with an inch of sand on the top, and they will every one root if you manage them properly. Proper management consists in planting them so deep that the second leaf from the top just escapes being covered with soil—in other words, plant them



ROSE BUD INSERTED IN THE SOIL.

to the second joint, and no deeper. They must be kept shaded and moist—never wet, never dry; aired daily, but with caution—a mere peep at them daily for the first week will secure them air enough; after that time, the glasses may be taken off and wiped dry daily, and replaced after a few minutes.

When you have had a little practice in this way, you may make the cuttings with two joints only, and in this case you may do without a joint in the soil. Pass the knife clean through between the second and third joint, plant as before to the second joint, handle them carefully, and they will root from the “internodes”—that is, from the space between the joints to which they have been cut in preparing them.

EYES OR WOOD BUDS.—The next practice will be to make one leaf and one joint suffice, with an inch of wood attached, and this is easily done, and ought to be done to prepare the practitioner for a skilful handling of eyes, which make better plants than cuttings, and, in fact, the best plants that can be had; they have the vigour of seedlings, with the advantage of being true to the several kinds from which the buds were taken.

Once more, cut from the tree a nice stout rod of this year. If the buds are pushing, good; but if pushed, they will not do. In other words, if you see the buds, and they look as if they meant to grow this season, you are safe; if they have already begun to grow, and have perhaps pushed to the extent of a sixteenth of an inch, reject them, for you will probably fail in all your efforts to persuade them to make roots. Having your nice, plump, green rod, half ripe, yet in a condition to peel easily—in fact, just such a rod as you would cut if you were intending to bud briars—you are in a fair way to proceed safely. Instead of preparing cuttings, take out each bud with its leaf by a crescent-shaped cut as in the figure, page 51. This, in fact, is the same as if cut for budding briars, but the leaf is not to be removed, and the wood is not to be removed, so you escape all the “niggling” that is the stumbling-block of nine out of every ten amateur rosarians. Have your pans and glasses ready, the pans with a layer of peat or leaf-mould at the bottom, and at least an inch and a half of silver-sand at top. Plant the bud with the leaf upright, keep it moist and shaded, and in due time it will throw out roots from the edges of the bark all round, and then the leaf will fall, and the bud will start and grow.

Having succeeded in preparing the buds properly, perhaps the principal difficulty will be to get them nicely dibbled in, so as to stand firm with all their leaves up above the soil. We always take the bud in the left hand, press a hole in the sand with a bit of stick held in the right hand, place the bud in the hole so deep as just to cover the point of the bud with the sand, and then press it firmly with the thumb placed on one side of it. They may be put very close together in the pans, and if the leaves are very large and when wetted fall over, clip off the top leaflet; the two leaflets then left will suffice to keep the bark healthy till it emits roots for its own keeping. When planted the bud will stand as shown at page 52.

When a pan is filled, sprinkle the leaves; never mind wetting the sand—if that is just damp it is sufficient; put on the bell-glasses; put the pans into the frame; draw down the light, and take satisfaction to yourself that you have done something.

It is about thirty-five years since we were taught this plan of propagating roses, and remember as if but yesterday we were told, "All you've got to do, is to keep the leaves alive; if the buds are dry it don't matter." And so we always found it. There will be hundreds of persons at work on eyes this season through the appearance of these remarks, and there will be thousands of eyes lost through too much water. Remember then, not our lesson, but the lesson that was given to us, "Keep the leaves alive; if the buds are dry it don't matter." What is the use of water to a chip of wood that has no roots? Of no use at all; it must be kept plump, but a very little damp in the sand suffices for that. On the other hand, to keep the sap moving, and to preserve the vitality of what is now dependent on absorption only, the leaves must be always moist, and that is to be accomplished by frequent sprinkling, and by keeping them rather close shut up. But herein is another danger. If not daily aired—a few minutes will suffice for the first fortnight—the leaves will decay before the bark has thrown out roots. If this happens, the eyes are lost. But if kept always moist, always warm and close, and yet never saturated, the leaves will be green till roots begin to grow, and at the first start of the bud the leaf will turn yellow and fall, and up will rise the tender shoot to tell you that your work was ably done. Of course, the process of potting off must then commence, and the little plants must

have thereafter all the care needful to make big ones of them. They must be carefully potted in the smallest thumb pots, in light sandy soil, and be kept close and warm until they begin to grow more fully, and must then have more air and light by degrees.

But touching the making of eyes, we hope it will be understood that young wood and plump eyes are not imperatively needful. Old wood and dormant eyes will make plants, but the process is slower, and the proportion of losses is sure to be greater than with plump buds cut from shoots of this season, on which at present none of the buds have begun to lengthen out in actual growth. Those who are used to budding only need select good budding wood—such shoots, in fact, as they would prefer to take buds from, for on these the leaves are fully matured, and capable of sustaining life in the bark and bud for a period of three or four weeks while the bark is forming a callus. Young immature leaves, and the buds at their base, are unfit for the purpose, and it will be a folly to use them, because they are sure to perish. If in the dibbling of the buds into the pans it is found difficult to make the leaves stand up as in the figure, take some fine twigs from an old birch-broom, and stick in to support the leaves, or put a few light stakes round the sides of the pans, and draw a few lengths of twine across, against which the leaves may rest. But all such small difficulties will soon vanish; the few manipulations needed are so simple, that any one with a will is sure soon to discover the way.

As to the subject of heat, a cold frame will answer perfectly in the height of summer in a good season if placed on an elevated bed in the full sun, and kept shaded from nine to six daily till the eyes are rooted. But a very gentle bottom-heat is preferable, and hence a nearly spent hotbed answers admirably. If a bed has to be made up for the purpose, let it be with rotten manure, and in fact the turning over and making up again of a bed which has been in use for early cucumbers will answer admirably, for when rotted manure is forked over and made up into a bed, there is always a gentle fermentation and a moderate heat which lasts a considerable time, and for this purpose will be sufficient. We can imagine an unpretending amateur planting separate eyes in thumb-pots, and placing a lot of such under a common hand-light or one of Looker's Plant-covers on the common soil, in a rather

shady place, and by covering the glass with canvas or mat all day, and taking it off at night, giving at the same time all needful attention to airing and sprinkling, getting his two or three dozen nice plants on their own roots, and being well repaid for his little trouble. We never did deal with eyes in such an offhand way, but we have rooted thousands of three-joint cuttings in separate thumb-pots under hand-lights on a border, and could get a comfortable living by that practice alone, if need be, for every rose is worth so much money, and the demand is fully equal to all the existing means of supply, especially of genuine own root roses.

AUTUMN CUTTINGS.—In the latter part of September or first week of October go over the rose beds, and cut off all the straggling shoots, and as many as can be spared of strong

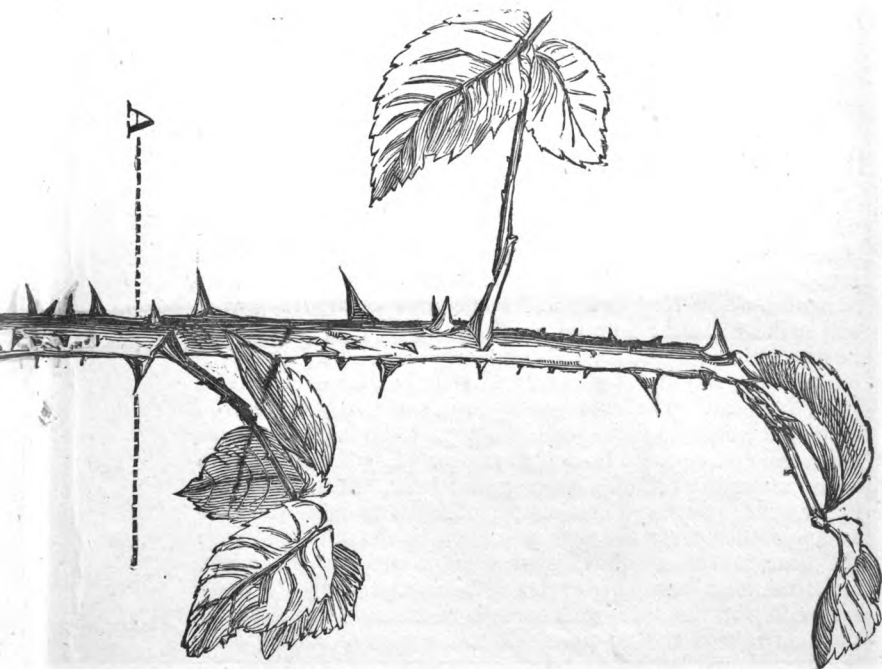


AUTUMN CUTTING PREPARED

To be planted as deep

FOR P
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ripe rods. Cut them up into cuttings (excepting the soft points) about six to nine inches in length. Having previously dug and well broken a piece of ground, and then put upon the surface a good dressing of sand, which slightly stir in, tread the ground evenly all over, and smooth the surface; then take a spade, and begin at one end to open a slight trench; then place a row of the cuttings in, about three inches apart, and three or four inches deep, after which close the soil upon them; then open a second row at about six inches from the first, and proceed as before, and so on until all are planted. By autumn of the next year they will be nice plants, if occasionally stopped when freely growing during the summer. It is the custom of many to put in winter prunings of roses in this way, and to be content if one in

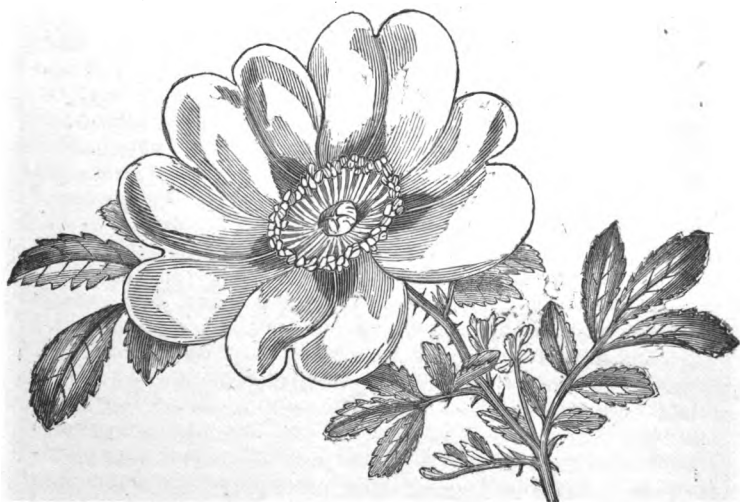


FOR PLANTING.
as the line a.

three or four make plants. The plan now recommended will ensure the rooting of nearly all. If the sap has gone down very few will root; but if the cuttings are made whilst the sap is still in motion, a callosity is formed before winter, and the cuttings are able in consequence to resist the inroad of excessive moisture during winter. It is better practice to plant them in old frames or pits, and give some kind of rough shelter during the worst of the winter weather. Many of them will flower the following season if allowed, but it is prudent to nip out the flower buds as soon as they appear. The mode of preparing and planting autumn cuttings is shown on pages 56, 57.

SPRING CUTTINGS.—Rose-growers are annually horrified at the idea of having to waste the spring prunings. The important principle of having the sap in full action before taking cuttings has a capital illustration in the propagation of the rose. Wait till May, and then take cuttings from roses in a house where they have been forced, and are going out of bloom, and you ought not to lose more than one in a thousand. But take prunings in a dormant state, put them over heat, and they are almost sure to perish. That peculiar process, the formation of a callus, which *must* take place before any cutting can throw out roots, requires the sap to be in very free flow, for the callus is formed of sap in the downward course. We do not say that it is impossible to strike the prunings of roses, because it is done every year at the rose nurseries, where they never waste one inch of anything that will make a plant; but no amateur would ever succeed in raising plants to pay for the trouble of picking up the prunings, and tallying the sorts. The only chance is with a brisk *dry* heat. The cuttings to be in sand, only the heel of each touching a hard tile, and the tops to be kept alive with an occasional sprinkle from the syringe. Lay the cuttings in a row across the bed of a propagating tank. Run under the upper ends a thick rod or a couple of laths to raise them to an angle, then cover the ends or heels with the sand, and keep the heat to 70° or 80°, till they root or wither. Of course, moisture must be supplied; let it be in the form of a daily sprinkling of the tops, with enough moisture in the sand for the heat to rise, and no more. If to be tried on a dung-bed, the heat should be fierce, and the cuttings might be thrust in bunches aslant. If in either case they callus properly, the

tops will suddenly exhibit a healthy plump appearance, and the buds will begin to start; if they are failing, the leaves will begin to fall off, in which case it will be found, on uncovering them, that they are turning black and hastening to decay.



HARDY'S YELLOW ROSE.

CHAPTER V.

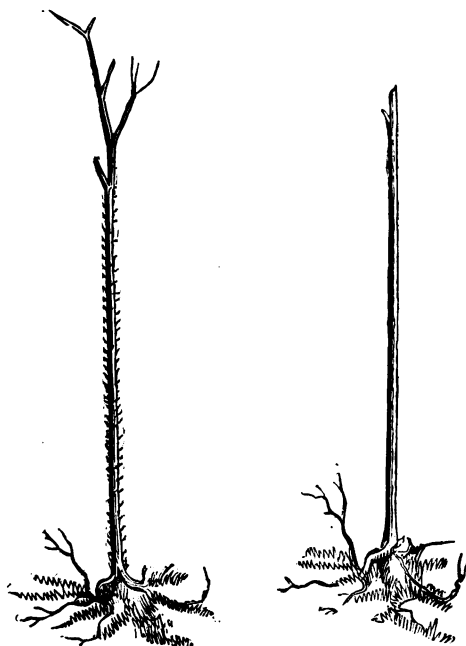
THE PROPAGATION OF ROSES BY BUDS AND GRAFTS.

NOTWITHSTANDING all we have said about the merits of own-root roses, those obtained by budding and grafting are valuable in their way, and as regards the supply of the exhibition table, there can be no question that the very finest flowers are to be looked for on young plants budded on healthy English briers. The Italian brier is of the greatest importance as a carrier of new roses into the market, and is, therefore, largely used by nurserymen, who would be compelled to charge a much higher price than at present rates for novelties, were they to put them on their own roots at once. For these, if for no other reasons, the amateur rosarian must learn the whole art and mystery of budding and grafting, and assuredly, as a recreation, it will prove to those who love roses, one of the most agreeable in all the round of rural pursuits.

STANDARDS ON THE ENGLISH BRIER.—The Dog rose is chiefly used in this country in the production of standard roses. For this purpose it is admirably suited, being of vigorous constitution, and well adapted to nourish by far the larger proportion of all the roses known. These Dog roses, or, as they are usually termed, “briers,” are managed so as to produce a few young stout shoots the first season after planting, and the buds of choice varieties of roses are inserted in these shoots. There they soon unite with the bark and wood of the brier, and in due time the shoots from these buds form the head of the tree, and all the shoots naturally belonging to the brier are removed. The brier is called the “stock,” and the rose is usually spoken of as the “bud” or the “graft,” and the place where the bud is inserted, close to the stem of the brier, is generally described as “the work.”

November is the season to procure stocks, and they should be taken up carefully and planted with as little delay as pos-

sible. You must have them of different sizes and qualities, unless you pick from a large number just those that suit you,



BRIER AS REMOVED FROM THE
HEDGE.

THE SAME PREPARED FOR
PLANTING.

and pay a higher price. In sorting them over, give a preference to the straightest green and brown varieties. The lanky dry-looking dark grey sorts are not near so good as those that have a hearty-looking bark, with a stem clean and straight to the head, the colour being of less importance than the shape and size, and the more fibry roots they have the better. Briers are grubbed up so roughly, that you will probably get few with desirable roots; indeed, they cannot as a rule be had with such roots as gardeners delight in, but with huge woody underground stems, frequently of enormous size, and the older the stocks the larger the tap roots. They

must first be sorted. Having laid them out in separate parcels, take a sharp saw and trim up the roots. In this operation a large portion of the tap root will have to be cut away, and in so doing cut so as to reduce it as much as possible without loss of fibres, for, though the absence of fibres is not a very serious objection, the more you have the better, because in the quick root action which most deciduous shrubs make after being moved in winter, the earliest and best roots will spring from those portions which are already furnished with fibres. Wherever a bud may be visible and likely to produce a sucker in the following year, rub it off; and when the roots are brought to neat shape and compass, smooth over every portion that the saw has cut with a sharp knife. The heads will be trimmed off before you get them, but a little more trimming will be necessary. Remove all side shoots and reduce the stems to such a size as may be desirable, cutting each to a good bud or ring if the bud is plainly marked out close to it, that the bark may close over the cut part in the next summer's growth. But if you are in doubt, cut a few inches above where you expect the head to break, and the portion left will be useful to tie the tender shoots to, delaying the final removal of that portion till the graft has taken, and is able to heal the wound over.

Whatever wounds may occur, and every part fairly cut in the trimming up, should be *at once* smeared over with a preparation of half bees' wax and half pitch, melted in a pipkin, and well mixed and melted together. The tops of the stocks may be dipped into the mixture while it is warm, and any wounds on the stem may be smeared over with a brush. This operation is useful as excluding the air from the injured portions, thereby aiding the formation of new bark to cover the abrasions. It is, however, very much neglected as troublesome; and in most cases the wounds heal over by the natural tendency of the plants to establish themselves in a healthy manner. The operation of removing the prickles is usually deferred till the season of budding; but it is better done at once, for at budding time the plants do not so well bear handling, and any wound causes an escape of sap, and the atmosphere is very destructive when acting on the exposed inner bark of the rose.

The removal of prickles is a matter of quite secondary importance. Those who are accustomed to handle roses

suffer but little, however formidable the prickles may be, and where large numbers are grown, it consumes an immense amount of time to detach them in detail.

In planting it is as well to economize space, for stocks need occupy but little room the first season. Take the sizes, and if possible make a row of each, or make two rows of each size, placing the rows in pairs, and leaving alleys between each pair only, so as to operate on each pair from the side next each alley. The best sizes for general stock are for the first row one foot, which make nice low border or pot plants; next eighteen inches, then two feet, two feet six inches, three feet, three feet six inches, and four feet for the last row. Any taller stocks planted for special purposes should be most carefully selected. Unless very strong and quite ripe they will not have sufficient vigour to take buds until perhaps the second season, or may in spite of you break half way down the stem, and compel you at last to cut them over equal with some of the dwarfest. When planted in rows, you need only leave space between for moderate freedom of action in superintending and managing; and in the rows they may be six or nine inches apart, the tallest not more than a foot at the most. Having planted them, drive a firm stake at the end of each row and run a lath or hazel rod along, and to the rod attach the head of each by a safe fastening. They will then be secure against wind, and kept neatly together for economy of space and facility of cultural operations.

Supposing adverse influences to work against you, stocks may be planted as late as February or March, or even to the middle of April; but every day's delay after the first week in November is a day lost, not in time merely, but in the strength and life of the plants, and in the chances of ultimate success. The later they are planted the later they break, and the more gaps occur from the presence of dead sticks in the rows.

ENTERING THE BUDS.—As soon as the stocks begin to throw out shoots look over them occasionally, and rub off every bud that shows below the head, unless the top of the stock produces no shoots, in which case wait a little; and if the head is evidently weak, but a strong bud appears on the stem, cut the stock down to that bud, and let it push. One or two others will be pretty sure to appear in the vicinity, and you will probably get shoots for working, though at a

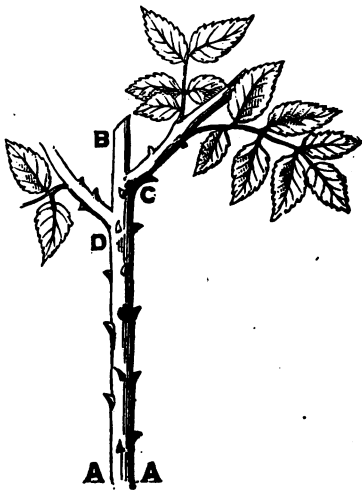
lower height than the row to which the stock belongs. If a stock appears weakly, and has been already shortened sufficiently, it is sometimes advisable to let a few superfluous shoots remain; for they help to increase the size and strength of the stock, for it is by the elaborating power of the foliage that wood is formed. At the same time, the best general rule is to allow only such shoots to remain as are really wanted. Two good shoots, well placed, are sufficient.

The best time to bud roses is from the middle of June to the end of August. The sooner it can be accomplished safely the better, but it is quite useless to attempt it unless the stocks are in a vigorous state and the sap rising freely, a condition indicated by the bark parting readily from the wood. After rain this happens with more certainty, and if the weather is cloudy there will be less evaporation, and hence fewer chances of failure. During hot weather it will be desirable to cover every bud the instant it is entered with a cabbage or rhubarb leaf, which can be tied with a strip of bass, but as the buds do not take well in such weather defer the operation if you can until cloudy weather returns. The bark will never part so easily as after rain; and unless the bark of the bud and that of the stock be brought into conjunction quickly, and at a time when there is plenty of sap in the latter, and the atmospheric action somewhat reduced, there is the smallest possible chance of success. Choose cloudy weather, therefore; if immediately after a soaking rain all the better, and let the operation be performed either very early in the morning or in the evening. If all the circumstances are favourable, a well entered bud will begin to grow in a fortnight or three weeks after being entered; and will make a hard ripe shoot long before winter, from which of course the head is to be formed the following year.

Now a question of some importance arises. What is most likely to check the growth of a stock at budding time? Why, that common operation of pruning in the wild growth, which is generally practised by rose-growers under an impression that it throws the vigour of the shoots into the buds entered at their base. It is a great mistake to cut back the shoot to be worked, though in practice some shortening is generally necessary for convenience, for it is impossible to enter the buds neatly and quickly with the head enveloped in a thicket

of thorny sprays. In using the knife, therefore, for the mere purpose of getting in among the stocks conveniently, let it be borne in mind that the more the shoots are cut back the more is the flow of the sap checked, unless they remain for a time untouched, so as to throw out side shoots, by which time the sap will be in full flow again, and the buds will take as quickly as if they had been entered in the first instance without pruning back the shoots. Choose dull damp weather; if possible, cut only as many scions as can be made use of at once before the leaves flag; and take especial care to tally every one correctly, so that the next season you may know exactly what your stock consists of.

Now, as to the particulars of the operation. The best heads are formed of one bud only, but to make more sure it is best to enter two or three, for if one fails the season is not thereby lost. It is best to limit the work of each brier to two shoots, and if both take, to remove the upper one by a clean slanting cut through the stock over the lower bud, as the head of the brier then heals over neatly, and the rose will last a lifetime. Many of the worked roses, through the want of attention to the healing of the head of the stock, soon get decayed half through just where rose and brier are united, and the consequence is a languid growth at top and a forest of suckers. The cut annexed represents a brier with two shoots fit for working—AA, the stem of the future standard rose; B, the top of the stock as pruned back last year, when planted in the nursery bed; C and D, the two shoots in which buds are to be inserted, D being the one we should prefer to form the head finally, because the stock can be cut through immediately over that shoot; whereas, if the head remains as now, B will die back to C, and between C and D there will



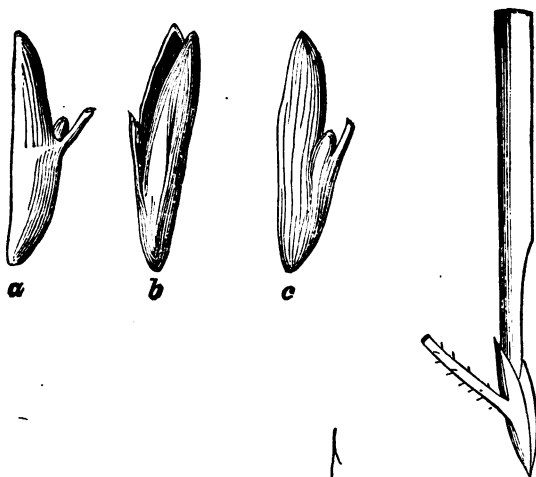
some day be a half thickness of dead wood, which is unfavourable to the forming of a head from c, but is entirely removed by a clean cut through the stock immediately over the base of d, which if performed in April, May, or June, will heal at once, and retain a flow of sap through the whole thickness of the stock at its junction with the head. We need say no more about the stock except that the buds are to be entered on the upper sides of the two shoots, c and d, as close to the base of each shoot as possible; and if the cutting back of those shoots can be avoided till after the buds have taken, they will take more quickly and securely. Nevertheless, a moderate shortening is generally necessary for convenience.

A man who has both stocks and roses in the same garden can choose his own time to obtain suitable buds. But the buds must be suitable, or the labour and the season will be lost; for if a bud fails it is hardly possible to enter another on the same shoot, though it may be done sometimes by making the incision on the side, or even underneath a vigorous shoot. These, however, are not such good positions as the upper side, from which the bud will start away and grow in a natural position from the first.

Much has been written on the choice of buds, but the truth is in this country the choice is limited, and much more depends on the free parting of the bark than on the nature of the bud, which may be cut from a growing shoot or a flowering shoot, or one that has just flowered but has not begun to push. The French use pushing buds with great success in the month of May, the sorts which succeed by that process being chiefly China and Noisette and Banksian roses. But briars in the open ground are not proper stocks for pushing buds, and they should never be used if the scale of the bud has opened so as to show the first incipient leaves. Choose a plump shoot, on which the leaves are large and perfect, and on which the side buds have not yet begun to grow. This will furnish about half a dozen buds, and the top of the shoot can be put in as a cutting; so that for every shoot cut, three or four briars or more may be worked, and one rose may be had on its own roots. The cut at page 51 shows how the bud should look, and how it should be cut. A portion of the stem with the accompanying leaf-stalk is to be cut in the form of a crescent; if the shoot is very stout, the segment may be a trifle longer than the engraver has represented it.

Take the shoot in the left hand, remove the leaf, but leave the base of the leaf-stalk untouched ; enter the knife, which must have a keen smooth edge, above the bud ; cut downwards and past the bud, and out again below it. Most amateurs use shields, of an inch or more in length. We prefer to have it not more than half an inch in length, but it requires some practice to insert them so small.

You have now removed a bud, and with it a segment of wood of this shape), and the cutting has the appearance of A in the next figure. You have now to remove the wood from the bud, which is a nice operation, and not easily described. Sometimes a touch with the thumb-nail of the right hand, the

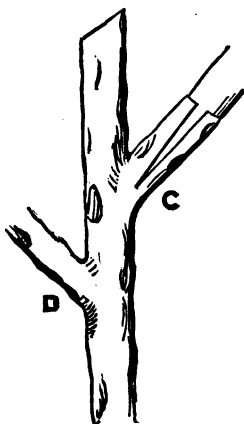


bud being held in the left, will suffice to effect a separation between wood and bark, and then the removal is easily effected. Some people use a quill cut like a tooth-pick to act as a scoop to remove the wood, but no one will ever become a rose-grower by help of such contrivances. The back of the point of the budding knife may sometimes be required to loosen the bark, first at the upper end of the shield, and then the finger-nail will do the rest. The cut *b* shows the wood in process of separation from the bark ; and *c* is the shield, that is, the bark

F 2

with its bud and a fragment of the leaf-stalk, ready for insertion.

The shoot of the stock in which the bud is to be entered must have an incision made close to where it joins the stem, as at c and d in the cut at page 65, or as more distinctly shown here, where the shoot is shown with the T shaped incision slightly open, and ready to receive the bud. To make this incision, enter the point of the knife about an inch above the base of the shoot, press till you feel it go through the bark to the wood, *but do not cut the wood*: pass it downwards to the point where shoot and stem meet, and then make a similar cross cut to form the top of the T. Now take the ivory blade of the budding knife, and open this incision so as to lift up the bark slightly, and slide in the shield you have first prepared, and cut the top of the shield so that its edge exactly

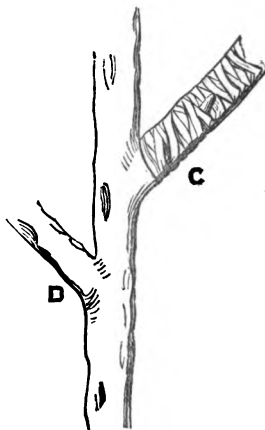


meets and fits the top of the T incision. It must fit there as neatly as if it belonged to the place it occupies, and the lifted bark of the stem of the T must lap over it, so as to press the shield close to the wood of the shoot of the brier. The next and last job is to tie it up. Worsted is the best binding, but soft bass kept in a pot of water ready for use is nearly as good, and the material generally used. Place the middle of a strip of bass behind the shoot at the bottom of the incision, bring the ends across, and then proceed back and fore to bind it, taking care to leave the bud peeping out, and finish off half an inch or so above the insertion, making it rather tighter there, but not to cut the stem, or squeeze the bud too hard. When tied it will have the appearance of the cut at page 69, and your work for the present is done.

All who have attempted to describe this operation have found it difficult. The fact is, the operation should *be seen* once at least. After once seeing it the beginner will soon acquire skill to overcome little difficulties, and at first a few failures are sure to happen.

TREATMENT AFTER BUDDING.—It must be obvious that an

inserted bud is in a very artificial condition, at least for a considerable length of time. It is long before the yeoman stock can fairly agree with his delicate, courtly spouse, and unless they both have a little coaxing, they may separate for ever, without the aid of a new divorce bill. The first step to prevent this is to make provision for supporting the shoot from the bud, the moment it is of sufficient length for a strip of bass to be passed round it. To the head of the stock tie a stiff short stick, of about the thickness of the finger or less. It must be stiff, so as not to budge a hair's breadth in the most threatening gale. To this stick tie the new shoot as it rises, and see at all times that your yet but partially united bud is safe against wind.¹



In very favourable circumstances the bud gets pretty well united in the course of about five weeks, sometimes eight, ten, or more weeks may elapse before the union may be considered good. At all events, six weeks after budding the heads should be looked over, and the ligatures loosened a little, or unbound and tied up again with broader strips of bass, and made a little looser than before, but this must be very tenderly accomplished. The best way is to cut with the point of the knife that part of the binding which is just behind the bud, taking care, of course, not to go through the bark. If the bud is swelling, and the binding appears very tight, this loosening must be done. If the bud seems dormant, yet healthy, and the bass only moderately tight, the binding may be left untouched till spring.

Supposing the bud to have taken, the character of the future head is to be determined by judicious pruning and stopping. There must be no undue haste to cut in the wild branches, because any sudden check to the flow of sap will disorganize the tree. But as soon as the sap is down, which happens at the end of October or the first week in November, slightly prune in the wild branches. Some growers cut them close down soon after budding, but beginners must leave them till

autumn. Then trim up and shorten in the head, but use the knife moderately, and leave the tree neatly shaped, with a head somewhat proportioned to the root. The pruning must be tenderly accomplished, or the bud may be shaken to its injury.

If the bud pushes well in the autumn, it must be stopped by nipping off the top bud as soon as it is six inches long. This will cause its sap to concentrate about the rings of the bark, and in the ensuing spring it will be prepared to throw out side-shoots for the formation of a head. If, however, the head is small, or the position exposed to the north or east, it will be better to let the wild head remain untouched till March, or even so late as the first week in April; for the earlier you prune the earlier will new shoots push, and it is not desirable to force a tree into growth too early for it to make real and beneficial progress.

In March, the most important of all the pruning operations takes place. The wild branches are all cut away *except one bud above the inserted bud*; that is, one wild bud is left on the shoot which was worked, and this is called the *sap bud*, its office being to draw the sap upward, and help the pushing of the inserted bud. The sap flowing freely in that direction to the one wild bud hastens the completion of the union where the incision was made, and the entered bud is likely to make good progress. If no bud but that entered was left, the sap might not readily flow to it, and to get rid of its sap the plant would throw up side-shoots all the way up the stem, and perhaps suckers from the root; whereas the sap bud draws it upward, and encourages the kind of growth you want. If a knot forms below the inserted bud, and begins to push with it, it is well to allow it to remain for a time, for its presence will frequently assist the inserted bud by promoting a free flow of the abundant sap; but when the inserted bud seems strong enough to use the sap, the wild branch may be removed by a clean cut to its base.

When the March pruning takes place, the last job is to cut the top of the stock close over to the inserted bud, so that no more wild growth can take place above the bud to interfere with the formation of the head. It must be cut slightly aslant, and so close to the base of the shoot from the bud that there shall be scarcely the thickness of card-board above it; for the bud will have to help in barking it over; and if any length of wood is left above the bud it will either

produce shoots of wild growth or die and eat into the stock, to the ruin of the tree. When cut over, the wound should be covered with clay paint or grafting wax.

The sap bud may now be expected to grow vigorously. It is better if it does so. When it has got two or three pairs of leaves, stop it by nipping off the top with the finger and thumb. Then, as the placed bud prepares to take the lead, cut in the sap bud a little closer ; but do not remove it utterly till about midsummer, when it may be cut off close to the inserted bud, and that should be the end of all wild growth. Now you have made your roses, and may transplant them in the autumn to their blooming quarters in the garden or rosery.

It is necessary to suppose the reader to be familiar with the art of budding, in order to understand what remains to be said about it. From frequent observation, we are satisfied it matters not from what sort of wood we take the bud, whether from a flowering shoot or the growth of the season, provided the *bud* itself is of the right sort—plump enough to be visible, not plump enough to be on the point of opening into leaves, and the bark about it so full of sap as to separate easily from the wood of the shield. There is this advantage in working roses on strong stocks, that we get blooms the next season ; and if the culture is thoroughly liberal and the buds are entered in June, the greater part of the wild wood cut away to force the bud, one season's growth from the bud is enough to make respectable heads. On their own roots they need another year to make a similar effect, and thus, by using foster roots, we steal a march on time.

Now, as to the process of budding. Roses differ among themselves as men do ; some are tractable and some are stubborn. Jules Margottin will give good buds from the end of June to the middle of October, but Aimée Vibert will never give a bud such as a beginner can handle with safety. If you cannot remove the wood from the shield by a neat action of the thumb-nail, or the back of the point of the budding-knife, the nail being the best, let the wood remain, and make of it a summer graft in the same method as inserting a bud. Through not knowing this practice, or not thinking of it at the time of operating, many amateurs fail with roses that make thin wood and wiry buds ; whereas by retaining the wood the difficulty is at an end, and you may work such a rose while the bud is invisible, especially after heavy rains, when the stocks are full

of sap and ready to nourish them forthwith. Another point to be remembered in using plump buds from the shoots of the season, the shields of which perhaps are very soft, is this, that a little wood left in the eye of is no consequence at all. When you have peeled the bud there will be an obstinate bit of wood left, to get out which will probably destroy the eye altogether. You must throw that away and prepare another, which may share the same fate; and if you happen to have but one plant of the variety to be propagated the whole shoot may be cut up, and the chance of propagating lost for the season. Peel the shield as clean as you can without splitting it, and if a bit of wood remains in the eye, there leave it. The grand thing is to unite the edges of the two barks at the top cut, where the union will take place, and to have the shield pressed close to the wood in the incision on the stock, a result to be obtained only by binding it carefully. Another and still more important point is, not to mind the *apparent* loss of the eye when the shield has been dexterously separated. Immediately after flowering the bud is not always so prominent that you can be sure you have it safe after removing the wood; but be assured it *is* there. Insert the bud, tie such a bud not extra tight, but with an extra thickness of cotton wool to prevent exhaustion by evaporation, and it will come as certainly as the plumpest. Nevertheless, dismissing these exceptional cases, a visible bud from the growth of the season is to be preferred, and it is well if the removal of the wood is clean and complete.

MANETTI ROSES.—The Manetti is the best stock for free-growing roses on soils unfavourable to the brier, and where roses on their own roots would starve. Nevertheless, the Manetti does well on stiff rich heavy soils, and is perhaps more adaptable in its nature than any variety of rose in cultivation. It takes its name from the raiser, Signor Manetti, of the Botanic Gardens at Monza. The best of this stock is that it may be worked later than any other stock, and if September pass by and you have lost the last chance of budding, then you can wait till March and graft your roses on its roots. Manetti's, however, will not make standards. They must be worked as close to the ground as possible, and at the final planting the base of the shoot from the entered bud must be planted below the ground level to give the rose a chance of making roots for itself, which it will generally do, but *not always*. For chalky, gravelly, and sandy soils this is invaluable.

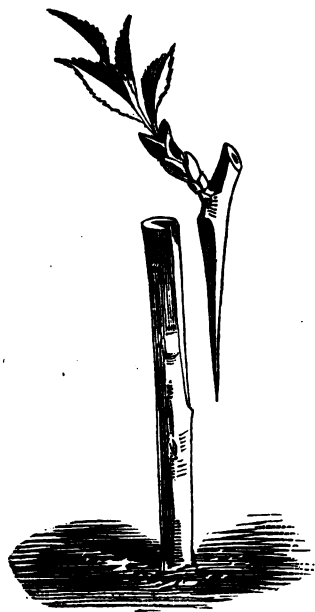
From the importance of this stock it would seem that there should follow a long chapter on the process of working it in the open ground during the summer. But in truth, there is no such necessity, for the process is precisely the same as we have already described in treating of the production of standard roses; but, as remarked above, the buds must be inserted close over the roots of the stock, for we need its roots only, and can make no use of the stem except for the production of the stock. However, it will be seen that in planting Manetti stocks sufficient space must be left in every alternate alley for the operator to work on his knees, for he will have to remove a little of the earth from the collar of the stock, in order to enter the buds as close to the roots as possible. When the buds begin to swell the shoots are to be cut close over and then the wild buds will start, and, generally speaking, they will not start until this be done. But there must be no haste about it. Some buds will swell up ready to start the same season, and others will continue quite dormant until the spring. Having thus hastily disposed of the summer budding of the Manetti, we must now treat more fully of another method by which it is utilized in the rose garden.

SPRING GRAFTING of the Manetti is rather more difficult than budding briars in summer, but when the details are thoroughly mastered, and proper care bestowed upon the stocks and scions until they are united, there will be but very few failures. It is not difficult to understand why so few private cultivators have hitherto taken advantage of this mode of propagation, for the simple reason that, unless they are for some time in the propagating department of a good nursery, in which roses are regarded as one of the chief specialties, they have no means of acquiring a proper knowledge of it.

To be able to take advantage of this method of producing a stock of dwarf roses for bedding or pot culture, it will first of all be necessary to provide a sufficient number of Manetti stocks. They require to be lifted carefully with a spade or fork, to prevent injury to the roots. The proper time for this operation is from the latter part of September to the middle of November. Have a supply of small sixty-sized pots in readiness, and a mixture of turfy loam and manure, and pot them separately, first removing all the roots produced up the

stem, and trim those produced at the bottom sufficiently to allow of the stocks being potted without difficulty. After they are potted, place them close together in a sheltered corner, and throw over them sufficient decayed tan or cocoanut fibre refuse to preserve the roots from frost. They will then be ready for working as soon as the scions are sufficiently advanced.

The scions are of course obtained from plants that have been forced. To prepare them for the forcing house they are taken up in October or November, and potted (unless they are already in pots), and placed in a cold house for a month. By that time they will have made a few new roots, and may then be pruned and started. It is desirable to commence with a moderate heat, increasing it as the growth progresses,



PREPARED STOCK AND SCION.



THE PROPER WAY TO JOIN THE STOCK
AND SCION.

but at no time is a very high temperature requisite. Syringe them twice a day, and admit a little air on favourable occasions.

The scions should be formed of half-ripened wood, and generally speaking they will be ready for taking off about the first or second week in March. One eye or bud to each scion will be sufficient, and they should be prepared exactly as shown in the annexed sketch. The stock is cut down to within an inch or so of the surface of the soil, leaving just room enough to put the scion on. The manner of preparing the stock is also clearly shown, so that no further description is necessary; but it is proper to remark that both the scion and stock must be cut so as to ensure an exact fit. It will be seen that a triangular piece is taken out of one side of the stock sloping off to the lower end of the cut, and also that the scion is cut so as to exactly fit upon both sides. When fitted together as shown in the second figure, bind them firmly with a piece of bast and cover the wound with a little properly-prepared grafting clay, or any of the mastics, which may be purchased of the principal nurserymen. Place the pots on a mild bottom-heat and keep the house close, and maintain a moderate degree of atmospheric humidity.

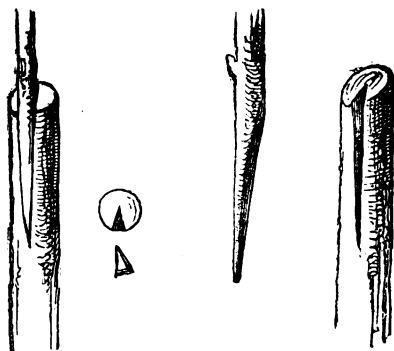
When a junction is effected shift them into five-inch pots, and sink them low enough to quite cover the stock. In a few days they will be nicely established, and may be gradually hardened off and placed in a cold frame or otherwise disposed of. They must not be placed in the cold frame too early in the season, for it is important to guard against their receiving a check of any kind at this stage. After they are removed to the frame they will require the same management as the ordinary stock of roses in pots.

GRAFTING BRIER STANDARDS.—This plan may be adopted where buds of the preceding autumn have failed. To succeed, the sap must be rising freely in the stocks, as indicated by the swelling of the wood and buds, and the stock must be in advance of the scion, that is, in a condition of greater vigour; and to insure this condition the scions are cut some time before they are to be used, so as to reduce their strength, and fit them to take up sap from the stock.

The stocks should be in good condition, well rooted, and *about* to grow vigorously. In February, procure the scions. If you have some good roses from which you can take scions,

cut off with a sharp knife some strong shoots that have not begun their spring growth, cutting them their full length; tally each lot of shoots as soon as taken, and tie in separate bundles those of different kinds. These must be kept alive for some weeks with great care, and the best way is first to cut off any of the top buds that are open, and then to stick the thickest ends of the shoots into moist clay, pressed tightly to them, and place the whole in pots of moist mould, and stow them away in some dry shed or cool greenhouse, where they will not be subject to the action of sun, rain, or wind; they may be kept just moist for three weeks, and if they are in a very dry place it will be as well to strew a little damp moss amongst them.

At the expiration of three weeks, those least fit for grafting will be shrunk, and must be picked out and thrown away; but the best will be still plump, and in a desirable condition for use. The first week in March is the best time in most seasons for grafting briars. The mode of operation is nearly the same as described for the Manetti; but it will be prudent perhaps to describe it. The stock is cut over horizontally, and a slit or wedge made in it vertically, one and a half or two inches long, a strong sharp knife being better than a chisel for the purpose. It must be a clean cut down the centre of the wood, without any jagging or tearing of the bark. As soon as the slit is made, take the scion in the left hand, cut away the portion that was buried in the clay, and cut away from the head of the scion as much as may be



necessary to reduce it to two or three good buds in the middle of the shoot; then cut the lower end to a long wedge, proportionate to the length of the slit in the stock, and with the lowest bud only just above the top or thickest part of the wedge. No dirt or chips must be about either of the cut parts, and the bark

must be as whole and untorn as possible, not a scrap removed

beyond what comes away in cutting a clean wedge. Now open a slit in the stock by means of a hard wooden tally or ivory wedge, and holding the thickest part or front of the scion outwards, insert it in the slit, and allow the stock to close and pinch it; they ought to fit very neatly, and the inner bark of the scion ought to touch the inner bark of the stock all the way down, and the outer bark of each should meet neatly down the outside of the cleft. Now prepare another scion in the same way, withdraw the ivory wedge, and insert that on the opposite side of the stock, and in the same way proceed till you have three or four scions inserted, though a couple will be enough for middling-sized stocks, and in the first attempts no more should be tried.

In binding up, it will be best to use broad strips of good bass, and to pass it round so that it shall be impossible for the scions to shift, either owing to the weather, or the swelling of the stock, or the accession of a flow of sap. When neatly, but not too tightly, bound up, cover the whole over with grafting clay, to exclude the atmosphere entirely from every portion that has been cut. Of course the cleft in the centre of the stock between the scions must be bound over with bass to prevent the clay from touching the split wood, which will unite in time by the flow of the sap. A bundle of soft moss should then be tied round the head of the stock and the scion, still further to defend both from the atmosphere, and preserve moisture to the bark. In dry weather the moss must be occasionally wetted; but if the water trickles through any crevice in the clay or bandages, and gains access to the head of the stock, it will do much mischief, and may cause the loss of the scions. Grafts inserted near the ground may be covered with mould after the clay is put on.

Grafting completed, you have now to hope for a speedy union and the perfect healing of the wounds that have been made. About midsummer, remove the clay and loosen the ligature, and apply a coat of mixture, leaving the point of the pushing bud free. This must be done just after rain, when the clay will be soft and easily removed, and the scion in a condition not to feel a shock from exposure to the air. Any grafts that have not taken should then be cut away, and every portion of dead wood on the stock where it has been worked cut clean away to the scions that have taken, and the wounds covered with mixture; but if all fail, knock off the

clay and cut the stock down to the first wild branch that has broken out below the graft, and thus get a new head to bud upon in the autumn. But there must be no haste in inferring that the grafts have failed; they sometimes lie dormant a long while, and then push vigorously. At all events, as long as the bark and buds of the scion remain plump there is nothing to fear, and when once a good leaf opens on the scion the union hastens, and ultimate success is certain.

Those who are practised in grafting usually have their favourite methods for various subjects, and it really does not matter by what particular method roses are grafted provided

the work is properly done. It has been our custom to pot in autumn, a lot of the small suckers that sometimes rise at the base of a brier. These potted suckers make nice stocks to graft in spring with shoots of roses selected of exactly their own thickness. The saddle graft is the best for these small stocks. They are cut close over near the rim of the pot; the head is then cut to the shape of a wedge, by taking a slice off each side, the graft is cut to fit it, and after being tied with bass and painted with grafting wax, they are placed in a warm damp part of the greenhouse or stove and they unite directly. The grafts ought to have only one or two buds each.



CHAPTER VI.

STOCKS FOR ROSES.

THUS far as regards the making of roses on foster roots, we have put the cart before the horse. But advisedly so, for it is not to be expected of any amateur to enter seriously into the business of producing stocks until expertness has been acquired in budding and grafting them. The beginner will buy stocks, the adept will raise them. It is proper, therefore, at this stage to say something on the subject.

THE ENGLISH BRIER is the only stock employed to produce standards or tree roses, and usually they are obtained ready made from wood sides and hedgerows. It is prudent to plant and bud a fresh lot of briers every year, so as to keep the rosarium supplied with thrifty young plants, as accidents may cause blanks in the rank and file, and it is also well to allow a certain number of recently budded briers to flower in the nursery piece without transplanting, as it often happens that these young trees in their first season produce the finest exhibition flowers, and may be trusted to cut from. Usually the briers are grubbed up in a rough, and more or less destructive manner, and in consequence many of them never thrive in the garden, and a certain number of deaths may be expected in every new plantation. The amateur who can superintend the lifting and planting will do well, for many a fine straight stem will be saved from rough usage, and will be secured with a reasonable proportion of roots wherewith to begin life again in the garden. The month of November is the proper time for the operation, and it should be carried on with spirit, the ground being first deeply dug and liberally manured to receive the briers, and these being planted as soon as possible after they are taken up, for exposure to the atmosphere is extremely injurious to their roots.

SEEDLING BRIERS are largely employed by the French culti-

vators who send over new roses. It is an extremely easy matter to raise them, but the amateur is advised to be content with raising a few at first and carefully determining their relative value before proceeding far in the business. As we have several kinds of wild roses, it may be proper to remark that the fruits or "heps" of *Rosa canina*, the Dog Rose, are of an oblong form and a shining scarlet colour. They should be gathered in October or November, and be laid up in layers with sand—first a layer of sand, then a layer of heps, and so on until all are buried. A damp place should be selected, as the object of "stratifying" is to promote the decay of the skin and pulp and thus separate the seeds for sowing in the spring. A small quantity may be stratified in a wooden box or a large flower pot, and a very good place to keep them all the winter is under the stage of the greenhouse, as they will be often seen and hence not forgotten. In February or March pick out the seeds and sow them while they are still damp. Any good ground in an open situation will serve as a seed bed, but if the quantity is small, it will be best to sow in pans and boxes and keep them in cold frames until the plants appear. In any case they must be transplanted as soon as large enough, and as vigorous stocks are required, the best plan is to plant them in showery weather, on ground prepared for the purpose by deep digging and liberal manuring.

Hitherto seedling briars have been employed for the production of dwarf roses only by spring grafting. But they may also be budded. The practice followed is to insert the bud or graft low down close over the roots, the result being, if the work is well done, thrifty, free-growing bushes. But there is no reason why the amateur should not raise stocks for standards from seed if he wishes it, and we are bound to say that we have obtained from seedlings, the straightest and finest stocks ever seen, and had the advantage of control over their roots from the very first. But carefully lifted hedgerow briars answer so well and are so easily obtained, that no one should enter upon the raising of seedlings either in great haste or in a wholesale manner unless fortified with a good reason and some amount of experience. There is, moreover, an objection to the use of seedling briars in their pertinacious production of suckers. This is in some part the consequence of checking their natural tendency to run up



MISS INGRAM.

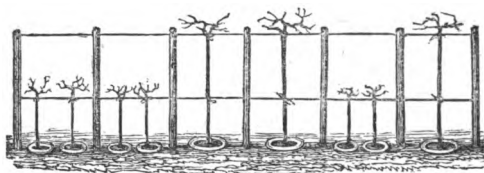
into strong, straight rods, but if they are grafted close over the roots the heading down of the stock is inevitable. All that can be done is to cut out the suckers to give the grafts a chance of taking and keeping the whole of the supply of sap from the roots.

THE NATURAL SUCKERS that rise from briars at some distance from the stock may be turned to account to make pretty little standard pot roses. To promote their rooting, uncover them early in the season and carefully cut a small notch on the under side near the base or point of the stock from which they spring, and cover them with rich light soil. By November they will probably have a good wig of roots of their own and may then be removed and potted, and the next season budded. Or they may be budded as they stand before they are lifted, but it must be on the stem or *gun barrel budding*, and of course, this will be done at the same time as the head of the stock proper is budded. As this system should be clearly understood, we return to the subject of budding in order to describe it.

Run your eye along them from head to foot. Say the sucker is three feet high, at two feet from the ground the young wood is in just the same state of greenness and ripeness as the base of the summer shoot, which you have just budded, on the top of the stock. Instead of waiting till next season, bud it there at once just under one of the leaf-rings, "gun-barrel" fashion; and six inches higher up on the opposite side, also under a leaf-ring, and with the top of the shield on the line of the leaf-ring, enter another bud, and you will have a fine plant next season. The operation is easier than the usual method of working. Make an incision like the letter I on the stem, then a cross-cut on top to make the usual T, but let the incision and the shield be a little longer than usual with top-shoots. In fact, use the largest shields you can get from very plump rods, to suit the robust nature of the wood you work on. Tie up and tally; in fourteen days loosen; in a month from entering remove the binding, and you will be surprised at the growth of the new shoots. They will soon distance those entered in the usual way on side-shoots of hard briars. Thus brier and rose begin the world together. There is no conflict between youth and age, and roots and shoots are of equal vigour. In November lift and pot them, and put the pots in a plunge

G

bed with a few wires or rails to tie the heads to, and they can be protected in severe weather, as in the subjoined figure.



MANETTI STOCKS may be propagated by layers and cuttings. As to the first, make them as already advised for named roses. As to the second, put in cuttings in the months of October as advised for autumn cuttings in the chapter on own root roses. This is really all that need be said on this important subject; but, on the supposition that a beginner may turn to this part of the book first, we will provide a short code for the culture of this stock. The first step will be to procure in the autumn one or two dozen well-established plants, according to the number of stocks likely to be required. Plant them in an out-of-the-way corner of the garden, at a distance of two feet apart each way, and prune them to within four or six inches of the ground-level. In the course of the season each plant will produce a number of shoots, nearly all of which may be made available for propagating purposes in the autumn. All the shoots which are as thick as an ordinary lead-pencil will be quite large enough for cuttings. In selecting the cuttings in October, take them off just above the first or second joint from the base, and then cut them up into lengths of six or seven inches according to the distance the joints are apart. As a rule, each shoot will make two good cuttings. The soft part of the shoot towards the end is not suitable for making cuttings, and should be rejected. In preparing them, cut them just under the lowest joint and an inch or so above the one nearest the top. To check as far as possible the natural tendency of the Manetti to produce suckers, remove the eyes from all the joints excepting the one at the top. When prepared, make a trench just deep enough to bury the cuttings so that the top bud will be an inch or so above the level where the trench is filled in. They should be laid in regularly

at a distance of about three inches apart in the rows, and the latter must be far enough apart to allow for cutting down the weeds during the summer without difficulty. They will require no further attention during the summer season, and by the autumn they will be nicely rooted, and may be taken up and potted for grafting in the spring following, or planted out in nursery beds for budding in the summer. When they are taken from the cutting bed trim the shoots slightly, and, if necessary, the roots may also be pruned; but root-pruning is not necessary excepting when there is a difficulty in putting them into small pots. The shoots should be pruned back to within a few joints of the ground-level annually, even if they are not required for propagating purposes, otherwise there will be a difficulty in procuring a sufficient supply of good stocks the following season. Every rosarian should plant out two or three Manettis in an out-of-the-way part of the garden and leave them to grow in their own way without pruning. They will after a few years produce a nice crop of pretty pink flowers annually, and at any time will supply an abundance of cuttings if required.

VARIOUS OTHER STOCKS may be employed for dwarf roses. The old *Maiden's Blush*, the *Common Boursault*, the Hybrid China rose *Descartes*, and the Hybrid Perpetual *Napoleon*, are useful stocks, as they root freely from cuttings, and are somewhat hardier than others in their several classes. Finally, the rosarian who raises seedling roses from heaps of named sorts may turn to account all the rejected ones as stocks, and as a rule they will answer admirably. In the end, however, for all ordinary purposes, and certainly for commercial purposes, the English and Italian briars will share the favours of the propagator, on account of their peculiar adaptiveness as carriers of new roses, and the very low rate at which they can be obtained or made in large quantities.

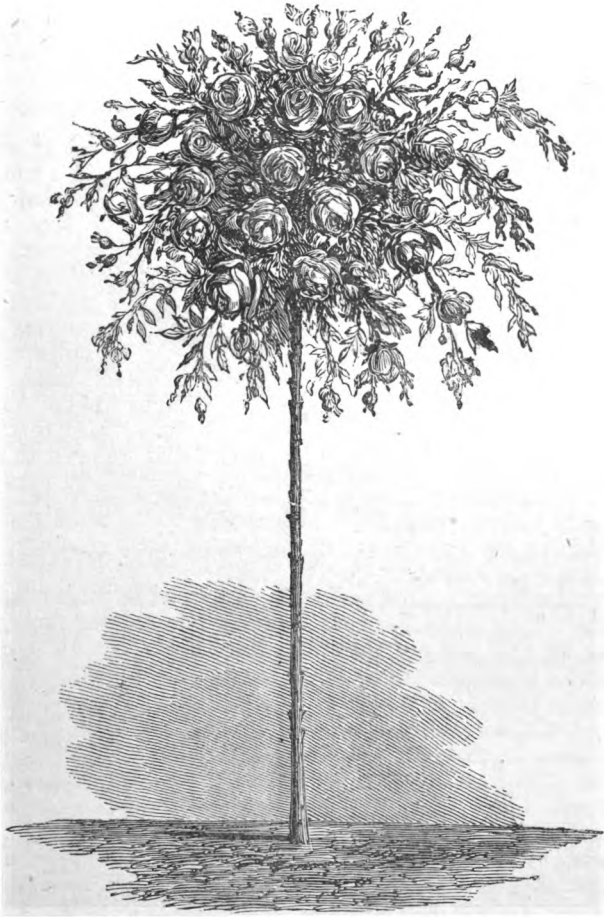
CHAPTER VII.

GARDEN ROSES.

S all roses are garden roses, and the wildest of wild briars is not to be despised when adorning a rough rockery, we must explain the purport of this chapter. A proper distinction may be made between roses that are intended to enrich a garden scene and afford entertainment to those who are not amateurs of roses, and those others that are grown chiefly to delight the critical eye, and perhaps to represent their owner in a glorious contest under canvas on the occasion of the district Rose Show. The exhibitor may care nothing about beds of roses, or arches of roses, or handsome weeping roses, but rejoice in straight lines of hard mop-headed standards from which he is accustomed to cull flowers of wonderful size and symmetry. But we must think of those who care little for exhibitions, but much for garden roses, and a few observations may be proper to the book and this particular part of it.

STANDARD ROSES may be employed to produce an interesting and beautiful feature of a garden, as suggested in the description of our own arrangement of them at page 39. But generally speaking they seem best adapted to make the garden hideous, for everywhere we see poor mop-headed things dotting lawns and borders like so many criminals consigned to a lingering death. The custom of planting standards in "pincushion" beds is not to be commended, for they are ugly during at least eight months in the year, and when at their best the few flowers produced do not pay for their keeping. The necessary digging and scratching of the beds to adorn them with bedding plants injures the roots of the trees, and that by lowering their vigour increases their ugliness. Still worse is the selection for such purposes of the stiff-habited kinds that throw their branches up in the fashion of a birch broom and persistently refuse to show a single line of grace

or beauty. When planted in files five or six deep, and extending a considerable length, the stiff-habited kinds cease to obtrude their harsh outlines and pleasingly harmonize with the rest. But standards may be planted on the lawn with



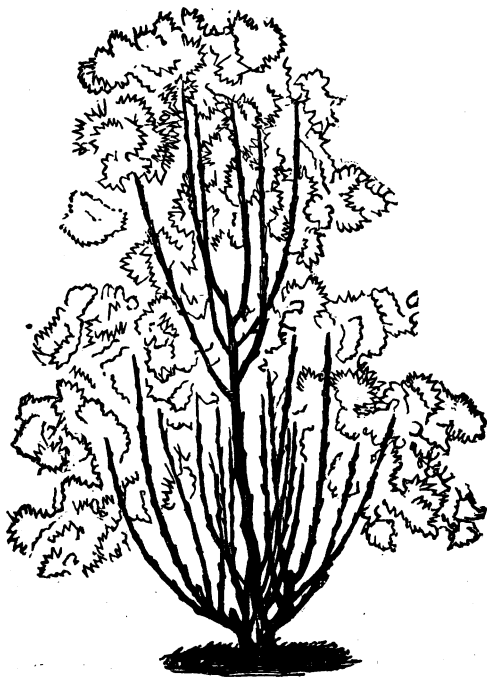
STANDARD ROSE.

the best effect, and we present a sketch of one which we selected in the garden as a model for the purpose. We require a graceful growth and a habit of flowering freely, and we find several of the hardier Teas, Noisettes, Bourbons, and Perpetuals admirably adapted to the purpose. For a peculiar position a strong stock worked with Common Ayrshire would produce a tree that an artist would delight to sketch, but the quality of the flowers would not delight a florist. What a charming standard does *Aimée Vibert* make, especially if in the pruning it is carefully thinned out and never shortened. It is a perfect garden rose. For a blaze of colour take *Admiral Nelson* or *Victor Verdier*, or *Jules Margottin*. For delicacy take *Bourbon Queen*. For a great head on a tall brier to help to enrich a rural nook take *Blairi No. 2*. For a sheltered corner take *Gloire de Dijon*, *Marechal Niel*, *Souvenir de la Malmaison*, and you will have glorious garden roses. If standards are planted with a view to close them in with turf, provide a fair-sized bed in the first instance, and fill it with a mixture of loam from rotted turf, and a fourth part of decidedly fat manure, taking away the hard old soil from the spot to a depth of two feet. Plant early, plant firm, stake with care, and keep the bed open for one whole season and then close it in with turf. By this mode of procedure you may expect a fine tree instead of a starveling, and you will do still better if you never turf to the stem at all, but keep the bed open and fill it with such a pretty bedding rose as *Fabvier*, taking care to lay on the surface a good coat of manure every winter.

DWARF ROSES are not sufficiently esteemed as garden ornaments. They make fine beds if wisely selected and properly managed, and many of the stiff-habited kinds that we should reject for standards will be found serviceable to make thrifty bushes and huge pyramids of flower. Many folks who love their gardens would be shocked if we implored them for their own sakes to root out the starving standards that line the walks and form ghastly centres to pincushion beds. But they would be not less overjoyed than convinced if we were to replace the standards with great bushes of *Alba* roses unpruned, or with strong plants on their own roots of *Sir Joseph Paxton*, *General Jacqueminot*, *Baronne Prevost*, *Madame Domage*, and *Glory of Waltham*. But we should want beds to plant them in; it would be no use to paste them

into holes, or merely chop over the old stuff and think the roses would never find out the quality of it.

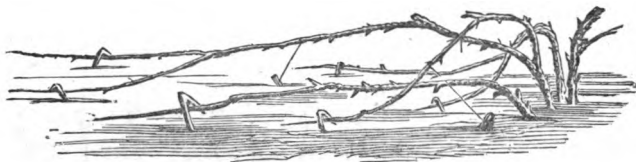
There are various modes of pruning and training roses to render them useful as garden ornaments. One very good way is to slightly shorten the strongest shoots in the month of March, and otherwise leave them to grow as they please. We have some gigantic bushes that have never been touched with the knife for at least twenty years, and they are wonderful for health and splendour, but of course they do not produce roses fit for exhibition. A capital mode of pruning to form handsome bushes is suggested by the subjoined figure :—



When the plant is pruned the best shoot near the centre is left unpruned, and the rest of the shoots are cut back to two or three eyes. The effect is surprising, for on such sorts as

General Jacqueminot or *Madame de Cambaceres* there will be found in the season from one to two hundred flowers expanded at one time. For this mode we are indebted to M. Von Hulle, of the Botanical Gardens, Ghent.

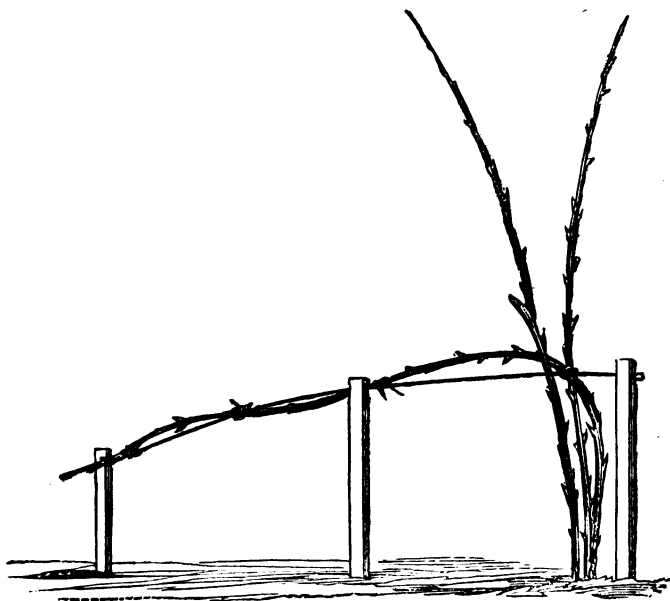
Another effective mode of training dwarf roses is to *peg them down* full length, so as to carpet the ground with their leaves and flowers. A serious objection to this procedure is to be found in the fact that when the pegged-down rods are in flower new rods will be rising and must be allowed to rise. The mode of procedure is very simple. The rods are allowed to remain their full length until the wood is about half ripe, and then they are slightly shortened to get rid of the soft tops, and being carefully bent down are fixed to the ground with strong pegs as shown in the subjoined figure:—



The beginner will experience at least one difficulty in accomplishing the pegging, for the hardest rods will snap near the ground. Nine times in ten the snapping of the shoots is of no consequence, for if the bark continues whole on the underside it will maintain itself and flower as well as if it had remained unhurt. When we have had some unusually hard rods to deal with, we have cut a tongue by an upward cut about an inch long at some point near the base of the shoot where the bending would be most convenient. But if they are laid in summer while still soft, but fully grown, there will be less danger of a snap and the beds will be tidy all the autumn and winter. We have found them flower better, however, when laid down in spring, and for that reason have adopted the practice of cutting a tongue. Every year the pegging must be repeated, the old rods being cut away to the ground line, and a fresh lot being laid down in their place.

A variation of the method may be resorted to for the production of another kind of effect. We will suppose we have a fair lot of own root roses before us in the early days of

March, and we must decide about the pruning and training. The first step to success will be to find our way amongst them without doing mischief, or having one's face torn with their hooked thorns. Hence, if we plant on purpose for this effect, we shall provide by the original arrangements for convenient access to the centre of the bed. The next thing will be to drive in some stout stakes, say ranging from four feet in the centre to two feet at the outside, and to run stout galvanized

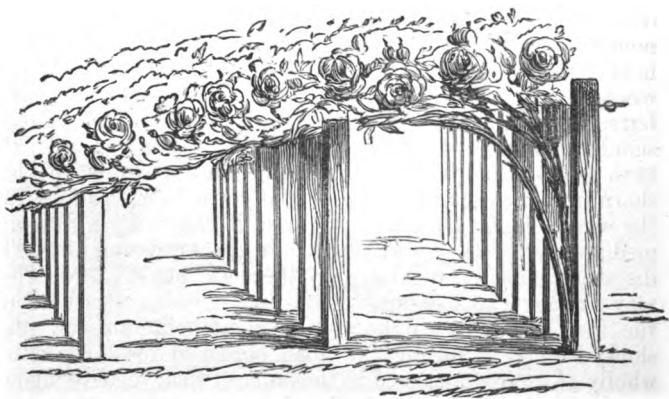


wires from the centre to the circumference in the way that the wires of an umbrella are arranged. Now we tie the rods to the wires and produce a regular convex surface of wood bristling with plump buds, which in due time will clothe with leaves and flowers the whole of the dome or umbrella, whereof the suggestive skeleton is in part before you.

It is proper to advise the amateur not to resort to this plan without taking thought of all the details. What shall

the centre consist of? A grand standard of a somewhat drooping habit, rising above the highest part of the trained rods, would make a nice finish to the scheme; and so would a gigantic bush rose or a small wire pavilion clothed with clematis, or climbing roses. The finish on the outside will be an easy matter, for we may select at will amongst the dwarfest of the roses, and the pompone cabbage rose would do nicely, but best of all, perhaps, the common China.

In the elementary scheme of this bed you have a proposal for an elaborate and extensive display of roses. Let us therefore lay out a compartment as a quatrefoil or cinquefoil, and the chord of every semicircle should measure fifteen



to twenty feet at least, and there should be openings at their intersections, for convenience-sake, to the centre. Here we may have standard roses, or we may have a pavilion covered with climbing roses; and then we might call the whole affair a rosarium. There is no end to the modifications of the idea, but in every case provision must be made for access to the machinery, for there will be need for occasional visitation and tidivating all the spring and summer, and even, perhaps, far into the autumn.

BEDDING ROSES may be obtained by the more simple plan of selecting sorts of dwarf habit and planting them in groups and masses, and keeping them in strict order by very close

pruning. The *Common China* is one of the best bedding roses known, but the dwarf growing *Chinas*, *Noisettes*, and *Bourbons* afford a number of varieties admirably adapted for beds. Thus amongst the China or Bengal roses we meet with *Archduke Charles*, *Fabvier*, *Ducher*, and *Napoleon*, all good bedders. The *Noisettes* offer *Fellenberg*, *Ophirie*, and *Aimée Vibert*; and from the *Bourbons* we may select *Baronne de Maynard*, *Emotion*, *Madame Gustave Bonnet*, and *Modele de Perfection*. The *Miniature Provence* roses are suitable in habit, but as they flower early and are soon over, they are less valuable.

In planting masses of such roses, a sunny situation should be chosen, and the beds should consist of good loam, deeply dug, and enriched with plenty of rotten manure and leaf-mould. Substantial beds they must be, but rather light than heavy, and well drained, but *not* raised above the level. If pot roses on their own roots can be obtained, they are to be preferred; but *Manettis* will serve the purpose. The planting should be done in the latter days of May, say as soon after the 20th as possible, for that is about the date at which the last sharp frost occurs, and pot roses that have been in frames all the winter might be seriously injured if caught by a frost immediately after they were planted in the open ground. The distances must be regulated by the sorts, but as a rule they may average two feet apart; and if the beds are rather thin the first season, it will be well to plant geraniums or other showy bedders to fill up. A broad border of roses, consisting wholly of dwarfs, arranged in the order of their relative vigour, the back rows consisting of perpetuals, would constitute a noble garden feature; and as own root roses in great part take care of themselves, fetch their own water, renew themselves from the root if cut down by frost, and last, with proper care, beyond any ordinary human lifetime, such a border may be pronounced one of the cheapest elegancies within the range of the amateur gardener's operations. To give it a finish, a boundary fence of roses would be appropriate, and for this we should prefer the most showy and vigorous of the pillar roses, such as *Red Rover*, *Climbing Victor Verdier*, *Glory of Waltham*, and *Princess Louise*.

CHAPTER VIII.

EXHIBITION ROSES.

WHEN the judges retire from within the ropes, and the eager crowd rushes past the wavering policemen, and the tables are stormed, and the ladies win all the front places, and those who have not lost their hands are busy with notebooks, and from every wave of the great crowd arise splashes of sound resembling such words as "Wonderful!" "Surprising!" "Delightful!" and "Are they real?" "Yes, they are *indeed* roses!"—when these things occur you may conclude you are at a rose show, and perhaps the first question you will ask yourself or somebody else is, "By what magical means are such glorious flowers produced?"

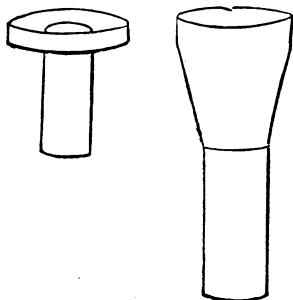
The magical means comprise careful selection, honest cultivation, and tasteful disposal of the flowers. To succeed as an exhibitor the amateur must put his heart into the work, must master all the details of planting, pruning, and budding, and train his eye by constant observation and comparison to the appreciation of the distinctive qualities of the flowers, as well as the modes of procedure followed by different cultivators. How far a good soil aids the exhibitor may be estimated by the relative success of a certain few of the most eminent trade growers. It would not be prudent to mention names, but we may properly suggest that those who most frequently and continuously take the highest awards—the gold cups and medals for 96 or 72, three trusses of each, say from 200 to 300 specimen flowers in one lot at one time—the folks who have longest and loudest held a lead in this way, always hail from a strong soil, and are generally found to be great in growing roses on the English brier. Others who follow them closely, or, while showing well in certain extra classes, carefully abstain from competing in the sections where both quantity and quality are required, will be found to be located on gravelly or sandy soil, and to be assiduous cultivators of the Italian brier. The amateur must always bear in mind that a genial climate, a

rich mellow soil, and a considerable amount of moisture both in the earth and the air, are the needful aids to skilful manipulation; and although he may not be able to command any of them as the accidents of locality, he must do all that art suggests as possible to remedy the defects of nature—that is, if he hopes to succeed with roses.

In presenting the queen of flowers in a competitive exhibition, considerable *finesse* is required. You may have superb roses, but unless you show them properly they will be lost, and flowers of inferior shape and substance may win the prize over the head of yours. If exhibiting is in your mind, you must occasionally visit rose shows, and make note of the manner in which the flowers are arranged, and especially of the differences in appearance between those that win and those that lose. You will very soon learn that skilful handling of the flower has nearly as much to do with success under canvas as skilful cultivation has in the open air. Now, whatever your ideas as to how roses *should be* shown, be you content in the first instance to walk the way of the world, and conform to all established rules, taking comfort by this consideration, that there have been original thinkers in the field—aye, and men of rare sound taste, too, and yet after all they have attained to nothing better than wooden boxes covered with moss in which to stage their competitive flowers.

The regulation boxes are made of inch deal, all of the same breadth, namely, eighteen inches; all of the same height, namely, six inches at back and four in front, and of various lengths, according to the number of roses. For twenty-four roses the length is four feet; for eighteen roses, three feet; for twelve roses, two feet two inches. The twenty-four box is the largest, and for convenience of carriage is rather too large; and hence many exhibitors have a number of boxes made to hold eighteen each, and if they want to show seventy-two varieties, they put four boxes in a row, and cover the whole with moss, and so make one continuous bed of the whole. The boxes should have covers one inch larger every way, and inside, all round, should have a narrow beading half an inch from the bottom of the lid; this will rest on the edge of the boxes, and leave space between for the roses, which cannot be too closely confined, provided solely that nothing touches them. It is necessary to have holes pierced at equal distances for the roses, and to provide zinc tubes, with moveable tops, to

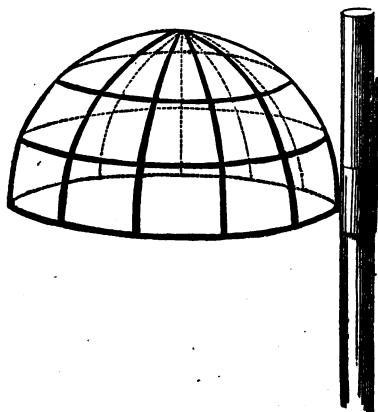
hold the flowers. These should be of the regulation pattern, and the best way to secure a supply is first to beg one of an exhibitor—and any exhibitor will say “Yes” on the instant—and go to a tinman for a supply, giving him the one you have begged for a model.



Before cutting the flowers, it is desirable to have printed or carefully written a number of neat cards bearing the names of varieties to be shown. At the last moment you will of course modify your plan more or less, and therefore you must have spare flowers and spare cards to

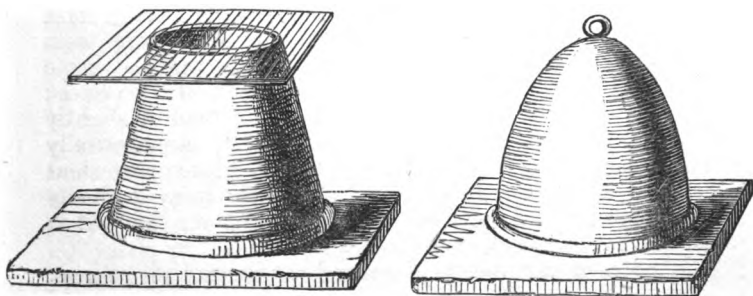
meet all probable emergencies. The cards are usually three inches long and one inch wide, but you may have them smaller, provided always that the names are legible. Some exhibitors place the labels on edge in front of the roses; others insert them in neat cleft sticks which stand up slightly above the flowers. To keep the labels in lots, alphabetically arranged, is easy enough; and it is a particularly convenient way for one whose hands are likely to tremble in finally touching up the flowers preparatory to quitting the tent at one end as the judges come in at the other.

To select good flowers is of course one step towards success.



For days in advance of the show you will have your eye on certain thumping buds that sit amidst buxom bright green leaves, and promise each to count one—or more than one—in the judging. Now you must be prepared with a number of wire shades eight to ten inches in diameter, and five to six inches deep, made to slide up and down a stake, and to

be fixed where required by inserting a wedge in the sliding socket. Never use the shade unless you feel that it is really required, for in dull weather delicate flowers will attain perfection without it; but if an east wind and a scorching sun, or a sou'-wester with heavy rain, prevail, the shades must be used to protect the more highly-finished flowers, and especially such as are of thin texture and light colour. The caps must be covered with fresh cabbage or rhubarb leaves, or paper. A shade may be improvised by means of a board and a flower pot, as in the subjoined figure. The board must have a hole in the centre and a slit cut from it to the edge to pass the stalk of the flower through. The boards will of course be firmly fixed to stakes, and the flower pots will have their bottoms knocked out and covered with wire gauze or glass. In place of a flower pot a bell glass may be used.



To have cards and moss and boxes in readiness will be one good step towards achieving conquest in the strife. You will, of course, have severely thinned the buds on your best trees, especially if they stand remote from the garden in a nursery quarter, and you will have supplied with regular doses of liquid manure such of them as may have appeared to need it, taking care also not to overfeed any, lest, instead of huge *perfect* roses, they should present ugly green centres. Very well. You have next to cut the flowers. Now, the best time for this business is the morning of the show, and you cannot be too early, for the flowers will hold their own longer if you can cut them before the sun has shed one ray on their perishable petals. It is good practice to cut and stage them at once; therefore your boxes and tubes should be taken to the garden

shed the night before, and your man should be encouraged to meet you on the ground at daybreak by any kind of encouragement you consider best adapted to his constitution. If he is one of the right sort, it will be enough to say, "Call me at three, Sanders, and don't cut a flower until I come."

Always cut your finest flowers first, and arrange them as you proceed, to ensure a telling effect, placing the largest at the back, and putting the yellows as far apart as possible, and taking care to have light flowers at each end of the lot, and here and there in the back row to draw out the eyes of the judges, but in such a way as not to betray any strict formality. If you have but a few light flowers, and put them close together near the centre, you will spoil the very best of the dark flowers that happen to be on the outsides. Spread the light as equally as possible, but take care to have enough about the boundary line. Always work up to your best flowers; do not use them to bring others out, but, while staging nothing but what is good, lead up by judicious arrangement of colours to your thumpers, to ensure their counting their full value in the judging. A little dressing will be required as you proceed, and you will have to learn the art by practice, although in essence it is most simple, and essentially honest. You are not to stick petals into flowers that show goggle eyes, but you may cleverly clip off the decayed edge of a petal, or twitch a petal out if necessary. A very large Malmaison, not quite out, may perhaps be improved by giving it a gentle squeeze between the finger and thumb, and then the removal of the stained outside petal may make a fine flower of it. An ivory dressing-stick will be found useful. It should be the size of your middle finger, flat, and rounded at one end. If in any difficulty about obtaining it, ask a lady friend to show you the ivories employed in netting, and borrow one for practice. By deftly handling this, holding the rose at the base between the thumb and two fingers of the left hand, you may regulate the petals if they are a little disorderly, gently curling them in towards the centre.

To provide moss may prove a more difficult task than providing roses. If it is not green and bright, you will be better off without it; but as there is nothing so good as moss, you must be at some trouble to secure it if you can. The Rev. S. R. Hole recommends preparing a lining of zinc for the boxes, and in this growing the dwarf *Lycopodium*, *Selaginella apoda*,

to form a rich green bed for the roses. But this adds to the weight of the boxes, and is finer in theory than practice. The late C. J. Perry, of Castle Bromwich—one of the truest florists and heartiest of men who has helped a show in modern times—once spoilt the look of a magnificent box of twenty-four at the Crystal Palace by bedding them on cut sprays of the common lycopodium, *Selaginella denticulata*, which had a most weedy appearance. What, then, you will ask, is a rosarian to do if he cannot obtain real moss of the proper fairy-like texture and colour? The answer is easy. Let the boxes be nicely painted and varnished a full dark green colour, and set up the flowers without moss, and every rose will appear to the judicial as well as to the public eye in its proper beauty.

When you have done all, be patient and hopeful. If you win, be not vain; if you lose, be not down-hearted; and, above all things, do not openly or inwardly abuse the judges, for remember that they perhaps know more about roses than you do, and after all they are but fallible men, and must have a margin for error in common with other people.

“Thus fears the man whom virtue, beacon-like,
 Hath fix'd upon the hills of eminence;
 At him the tempests of mad envy strike,
 And rage against his piles of innocence:
 But still the more they wrong him, and the more
 They seek to keep his worth from being known,
 They daily make it greater than before,
 And cause his fame the further to be blown.
 When, therefore, no self-doting arrogance,
 But virtues covered with a modest veil,
 Break through obscurity, and thee advance
 To place where envy shall thy worth assail,
 Discourage not thyself, but stand the shocks
 Of wrath and fury. Let them snarl and bite,
 Pursue thee with detraction, slander, mocks,
 And all the venom'd engines of despight,
 Thou art above the malice, and the blaze
 Of thy celestial fire shall shine so clear,
 That their besotted souls thou shalt amaze,
 And make thy splendours to their shame appear.”

—GEORGE WITHER.

CHAPTER IX.

THE CHARACTERS OF ROSES.

ROSES are variously described as "cupped," "globular," "imbricated," and as otherwise distinguished by some peculiarity of form. It is a matter of considerable importance to the rose amateur to be able to picture in the "mind's eye" any given rose from a printed description; but to this end the terms employed must have a definite signification, and the descriptions must be precise and true. It is not desirable—and, happily, it is not possible, to have all roses cast in the same mould. The exquisite form and delicate colouring of the common cabbage rose do not in the least detract from our enjoyment of the dense globular or semi-conical form of a fine tea-rose, such as *Souvenir d'un Ami*, or the tazza-shape of a glowing perpetual like *John Hopper*. As, however, all merit is comparative, so the relative merits of roses depend much on their forms, and in any practical scale of the order of properties form should certainly hold the first place. We may sometimes accept with gladness some particular variety for the sake of its colour and perfume; but, if we have any range of choice, those of best forms will be selected first, and amongst the several forms that are recognized some will certainly rank higher than others. It is with a view to assist the critical amateur to a right appreciation of the more distinctive forms of roses, and to promote uniformity of practice in the employment of descriptive terms, that we submit the accompanying sketches of six distinct types, which we propose shall be recognized as admissible to the great class of "show roses," and shall henceforth be known by the designations we have adopted for them.

THE GLOBULAR ROSE is certainly the finest of all known forms; but, as "variety is charming," we do not wish to see the stands at a rose show occupied with roses of this type only. Its near approximation to a spherical outline satisfies

the eye, and that same outline favours depth of petal, uniformity of contour, and concealment of the centre. A very considerable number of the finest show roses are of this form, the centres being full of small petals, and the exterior petals broad, stout, and richly folded, each sweetly embracing the portion of the periphery which its outline covers. When we view the rose from above, the petals are seen to graduate regularly in size from the centre to the circumference, and their regular convexity produces a most delicate series of shadings of the prevailing colour, whatever that may happen to be. It is a good point if the colour deepens towards the centre of the flower, and the centre of every petal; and this will be the case if the petals are "shell-shaped," because every part of the surface will receive the light at a different angle to every other part, and the colour will be intensified towards the hollow of the shell.



The CUP-SHAPED ROSE is an elegant modification of the globular, the result of a greater depth—and, usually, less breadth—of petal. This form is well adapted to display any peculiar colour, and it is generally elegant in the bud. But it is not always satisfactory when viewed from above, for the centre is rarely well concealed, and many of the smaller petals are lost to view, because hidden by those that rise above them. Nevertheless, we have some lovely roses of this type, and it may be said of it that the more it tends towards the globular the better. It is a good point in a cup-shaped rose to be well rounded at the base; if it narrows down sharply to the calyx, it is in that respect faulty.



THE TAZZA-SHAPED ROSE is a modification of the globular, resulting from a shortening of the petals, which are often wider than their depth. Roses described as "compact" are usually tazza-shaped. It is a most desirable form if the centre is good, but the interior of the flower is so fully revealed that it must be thoroughly well filled to bear severe criticism. The petals should be

slightly clasping, and they should be stout in substance, to sustain the fine formal outline of the flower.

THE IMBRICATED OR EXPANDED ROSE affords a very agreeable change from the three foregoing. In this the petals are



numerous and comparatively small, rising tier above tier to the centre, which should consist of small petals without a trace of an eye, for that indeed is more bearable in a cup-shaped flower. The general contour of the flower is flat and broad, and, therefore, extreme regularity, good colour, and a camellia-like substance, are required to compensate for obvious defects. We have some

very pretty roses of this type, but it is not well to take seed from them, although if they are good in colour and substance, they may be turned to account to supply pollen to the globular and cup-shaped. Too often roses of this class are wanting in substance, and tend to most objectionable features.

THE REFLEXED is a good form of the imbricated, as the petals curl outward, and present the shade of the inner surfaces in alternate lines or waves to the shade of their outer surfaces. If nicely filled up, in the style of a high-centred dahlia, this is a fine form of rose, but as every petal is revealed, the utmost regularity is required, and the flower should be "full of stuff," that is, it should consist of an im-

mense number of petals, and display no trace of an eye, the stamens being all converted into petals. We have not many good examples of this type, and the best of them tend to roughness in the centre, and a general confusion throughout. When, however, there are two or three delicate shades of colour, the flower is admitted by all true rosarians to be beautiful, even if, according to the "properties," its faults are obvious, and we have to regret that Nature is wilful and eccentric.



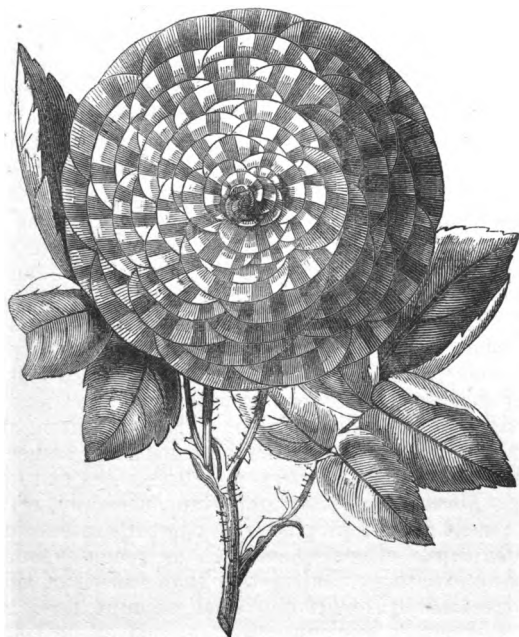
THE QUARTERED ROSE is generally objectionable, and can only be recognised as admissible in a show class because, in spite of our rules and harsh empiricism, very many quartered roses are so lovely that we would sooner burn and forget our rules than lose these roses. It is not well to cite examples in setting forth a system for technical guidance, but in illustration of this type of rose we must mention *La Ville de Bruxelles* and *Souvenir de la Malmaison* as lovely roses that please us even by their defects. In this form flatness is a striking characteristic, but the chief peculiarity is that the petals are arranged in groups in such a manner that there are usually four or five distinct whorls of them in a concentric arrangement, the principal shadows of which suggest to the eye the possibility, and even the probability, that the flower may divide from the axis into a series of radial divisions. A rose of this type must have some very pleasing characteristics of colour, size, or fragrance, or all these qualities combined, to compensate for its defects of form, for a quartered rose is objectionable from first to last, for the simple reason that it is quartered.



"From fairest creatures we desire increase,
That thereby Beauty's Rose might never die."

In judging roses, form, size, and freshness are the three grand qualifications. In comparison with these, colour is quite of secondary importance, and as to novelty it is on its own account of no account at all. When a new variety presents a new and desirable quality, then novelty shall count for something; but in the garden, on the dinner table, in the button-hole, and under exhibition canvas, one good old rose is always to be preferred to fifty new and bad ones. At every show where proper encouragement is afforded to roses, there should be a separate class for the new ones, because the amateur who boldly speculates in novelties cannot always wait until his latest purchases are thoroughly established, and the trade are naturally anxious to present examples of the newest of the new, and it is impossible to obtain from recently-introduced varieties such flowers as they would produce after being in the country a few years. Hence, to put the newest in the same stand with the oldest is unfair as a rule, for the tremendous vigour of an established favourite may result in the eclipse of a novelty presenting some very desirable qualities as yet only partially developed. But nothing will and nothing need prevent the insertion of examples of the newest in the same stands with the oldest, if the first happen to be equal in size and substance to their veteran competitors. We must judge roses as we see them with the bodily eye, and not by the prophetic vision; and it is a matter of no small importance that no rose, however good, can be shown so well in the first season of its occupation of the English garden. The hard forcing it is subjected to for the purpose of making stock will suffice to take the substance out of its flowers and deceive us as to its capabilities. *Form* is the most important, certainly, of all properties; next in rank we place *size*; but if size is accompanied with any degree of coarseness, such as rough petals or any trace of an eye, it is a fault rather than a merit of the flower. Nor is *freshness* or *condition* of small account, for a rose that has become papery or cambricy, or stained or shrivelled, is as nothing or worse than nothing. We are not to consider what it *has been* any more than in respect of a green rose-bud of the size of a hazle-nut we are to consider what it *will be*. A stand of small flowers nicely formed and fresh and clean should carry off the palm from a stand of the largest that have lost form and character by reason of staleness. As to *colour*, "variety is charming," and the brighter and purer and more

various the colours the better. The exhibitor who has "half an eye" will take care to arrange his colours so that all will tell, and will even make a little sacrifice of form and size to ensure a certain brightness of colour requisite in the arrangement of a pleasing group.



STRIPED ROSE, MADAME DESIREE GIRAUD.

CHAPTER X.

CLIMBING ROSES.

THE rose grower must never confound together the idea of a climbing with that of a pillar rose, for the simple reason that they are very distinct in their characters, and to a great extent require different treatment. Climbing roses may be grown on pillars, and *vice versâ*; but a genuine climber is not best adapted for a pillar, nor is a genuine pillar rose best adapted for a trellis or wall. But as the leading principles of their respective cultivation agree in some points, and as for decorative purposes they very closely assimilate, there would be a strict propriety in considering them together, if we could afford room to do so, especially as the treatment needed by one would serve to illustrate and explain that necessary for the other. As a rule, fast-growing roses, of pendulous and rambling habit, such as *Boursault* or *Rampante* for instance, make the best climbers; but these generally produce inferior flowers, though when seen *en masse* their appearance when in full bloom is delightful. But for pillars, varieties of the highest floral excellence may be chosen, such for instance as *Jules Margottin*, *Red Rover*, *Glory of Waltham*, *Princess Louise*, and others that bear inspection individually, and exhibit characters consistent with the important and conspicuous places assigned them. Bearing these differences in mind, let us consider now the uses and abuses of climbing roses.

The object first sought is to cover the wall, trellis, or arch quickly, but not with such haste as to prejudice the future well-doing of the trees. For all the better class of climbers the first thing requisite is to prepare the soil, so that when planted they will have every help to free growth. No matter what the position or the circumstances in which the roses are to be planted, the soil should be deeply stirred and liberally manured some time before planting takes place. For these

roses are hungry, and if starved the leaders become hard in the bark, and are reluctant to make side-shoots ; and instead of making a vigorous growth at one effort there is a succession of spasmodic efforts at growth all through the season, especially after rain, that prevents the formation of flower-buds. But for Ayrshire roses no great preparation is necessary, unless the soil happens to be poor peat, sand, or chalk, in which case some good loam must be introduced at the stations where they are to be planted. In nearly every case of planting climbing roses, plants on their own roots are to be preferred. If not on their own roots, they should be on short brier stocks. Some kinds seem to do as well budded as on their own roots, and for the first year or two grow quicker. We remember once covering a great breadth of wall with one plant of Grevillea in three years, the plant being worked on a brier about six inches from the ground ; and another plant on its own roots, in a similar position close by, had not made more than half that growth in the same period ; but after the third year, there was no great difference between them.

In common with other roses, the climbers may be planted at any time between November and March if they have been previously growing out of doors, and as many of them are precocious in their movements in spring, autumn planting is to be preferred. But in any case of planting out of pots, if the plants have been sheltered or grown for some time under glass, it will be best to wait till April or even May, and then turn them out carefully, loosening the ball of earth, but not stripping their roots entirely.

It will depend on the varieties planted, how they are to be dealt with from the day of planting. Ayrshire and Semper-virens roses require very little pruning at any time, whether in youth or age ; but Boursaults, Rosomenes, Teas, and Noisettes require careful pruning to insure a regular distribution of the flowering wood, and prevent increase of altitude at the expense of growth at the base. Any of these roses left to grow as they please will soon become mere bunches of leaves at the ends of long naked shoots. It is the business of the cultivator to prevent this. If the plants are strong when planted in autumn, tie them in sufficiently to keep them safe against wind, and so leave them till spring. At the end of February cut them down to within two eyes of the base of each shoot, and on no account begin with more than three shoots to each

tree. The object of deferring cutting down till spring is to prevent the premature starting of the buds at the base, for should there come a sharp frost after mild weather those buds may be killed back after having grown a few inches. From the three shoots supposed to be cut down there will probably start eight or nine shoots. Retain five of these, and cut or nip out the remainder as soon as you can determine which push the strongest; the weakest are to be removed. Supposing you have but one main shoot to begin with, cut it down to three, four, or five eyes, and from these form the plant. Train in all shoots regularly, never let them hang about, or the growth will be checked and they will flower prematurely. (When they are established they may be allowed to fall over if the position allows of negligent growth, and they will bloom the more freely for it). At the next season's pruning, cut back all the shoots at least half their length, no matter what the length may be, and at the same time remove any weak, or ill-placed, or imperfectly ripened shoots, leaving a bud at the base if another shoot is wanted in the place from which a poor shoot was removed. The next season cut back to a uniform length, but not severely, all the leading shoots, and shorten in very moderately all the laterals, and thenceforward prune very little, no more in fact than is sufficient to prevent crowding at any one place or the usurpation of the principal vigour of the tree by any one leading shoot. To keep a wall or trellis well clothed, it is needful to have an eye to the strong shoots that occasionally rise from the base. It will be well to allow one of these to rise every year, train it over the shoots that are already nailed in, and at the next pruning remove one of the old main shoots by a clean cut at the base, and let the young shoot replace it.

ARCHES AND TRELLISES.—If the summits and connecting chains and rods only require to be covered, plant climbing roses worked on tall stems and train their heads over, and only prune sufficiently to regulate the growth. For this purpose those of the *Sempervirens* section are invaluable; and as they retain their leaves till spring, you have the advantage of verdure in winter with roses in summer. When in bloom they are magnificent, the clusters showing from a dozen to forty or fifty roses each. The deepest coloured rose of this section is *Princess Marie*, reddish pink, the flowers nicely cupped, and produced in large clusters. The next brightest coloured is

Brunonii, flowers of a lively rose, a brilliant object when full out, the plant less decidedly evergreen than the rest of the family. The purest white of the race is *Mélaine de Montjoie*, which has rich deep green, glossy foliage. Another good white is *Rampante*, a tremendous bloomer. The most fragrant is *Banksiaeflora*, with straw centre, very double. But the favourite of the race is *Félicité Perpetué*, a remarkably rapid grower, with lovely foliage, and myriads of little globular creamy blossoms. There are many others, the best of which are *Spectabile*, rosy lilac, and *Myrianthes*, with beautifully formed rosy-blush flowers, most delicate and graceful in all its aspects.

TRELLISES AND DIVIDING SCREENS.—When worked roses are planted to run over the summits of arches and temples, the low trellises and chains connecting the principal supports of the arches may be covered with Hybrid Perpetual and Bourbon varieties, or with *Rose de Rosomène*, which is very vividly coloured, and most profuse in flowering, though a poor rose when compared with any of the florists' varieties. Among the H. P. and B. sections, any of the vigorous growing kinds may be selected, and of Teas and Noisettes there are many suitable.

BANKS, TREES, AND WILDERNESSES.—In wild scenes, and where truly rustic roses are required, the Ayrshires answer admirably, being of rapid wiry growth, and requiring only to be trained—if trained—the first season, after which they will take care of themselves, and festoon dead or living trees, ruins, gateways, and other rough elevations most gracefully and profusely. To start them well give every plant a square yard of prepared soil, consisting of good loam and one-third manure, or if the staple is clay, break it up and manure it without introducing loam, and if they have but a moderate share of daylight they will grow in the confusion of a glorious wilderness, and make good hold for themselves wherever they go. Ayrshire and Sempervirens roses furnish precisely the kind of materials needed for the banks of wilderness walks and for open spots in woodlands, and to clothe mounds and knolls where mere weeds would be obnoxious, and choicer plants out of place. Let the ground be well dug over and manured, and then plant the varieties in masses of a dozen of one kind together, the plants five feet apart every way, and after that an occasional dressing of manure on the surface is all they

require. Even that is unnecessary on good clay or loamy soils.

WALL ROSES.—All the foregoing may be turned to good account on walls, but as walls are good positions, they should be appropriated to the best roses that can be obtained for them. We shall not soon forget a *bijou* rose garden in which was a great breadth of wall on one side of the dwelling house, fitted from the eaves to the ground line with a wooden trellis, completely covered with *Jaunâtre* and *Wistaria sinensis* freely intermixed, and one mass of bloom throughout; such a curious blending of fawn colour and bluish purple as it would be equally impossible to describe or imagine. It is prudent to have a wall intended for roses fitted with a trellis to which the gardener will *tie* the roses instead of having to *nail* them; but instead of wood, let it be stout galvanized wire run through eyelet-hole nails. This plan preserves the wall, and is better for the roses than the nails and shreds.

The most splendid and certain of all wall roses are the Boursaults. They grow fast, are thoroughly hardy, bloom in immense clusters, and are truly gorgeous in the display they make, but they do not last long. To grow Boursaults well cut them down close at the first start, and after that merely shorten the seasonal growth, and thin out the weak spray and any soft or misplaced shoots, and they will never fail to be beautiful in their season. They require a good soil, but the aspect is comparatively of little consequence. The best is *Gracilis*, which is a rapid grower and of pendulous habit, with handsome foliage. The flowers are of an intensely brilliant rose colour. *Inermis*, bright red, is a lively rose, and of most luxuriant habit. *Amadis*, with purplish crimson flowers, is a favourite about London. At Sydenham it appears to come by spontaneous generation, like an efflorescence of the brick walls. It is a truly deserving rose, and superb on a pillar.

In the Multiflora section we have the finest wall rose known, but which happens to be only fit for a south wall in the south of England, being unfortunately very tender. This is *Laure Davoust*, a rose which claims admiration for its lovely foliage, and large flowers, produced in immense clusters, the colour a curious mixture of lilac and blush. *Russelliana*, rosy lilac, is a trifle more hardy, but needs a south or west wall. *Grevillea*, or the *Seven Sisters* rose, is the best known of this class; and a superb rose it is, growing with marvellous

rapidity, and if capable of enduring the climate, presenting a magnificent spectacle when in bloom, the flowers being in great clusters, and exhibiting various shades of rose, and purple, and deep crimson. We had a magnificent specimen of this rose worked on a brier stock on the front of the house at Stoke Newington, which the winter of 1860 destroyed completely. It is a troublesome rose to keep or grow, owing chiefly to its habit of beginning to push very early in the season, and its utter unfitness to endure those sharp frosts which invariably occur in this country just at the season when "hawthorn buds appear."

Banksian roses are of the same delicate constitution as the Multifloras, but where they can be grown, they are exquisitely beautiful. Travellers by the South-Eastern Railway may in the season have a feast of these lovely roses by keeping a look out after passing Croydon, as at several of the stations, Carshalton especially, the walls are covered with them, and they grow most luxuriantly, and flower in dense sheets of white and yellow uniformly from head to foot. Banksian roses require a rich, dry soil, a warm exposure, safe shelter from east winds, as they bloom in May, when the weather is frequently as cold as in January; and in pruning, any long rods may be cut away, but the small side shoots must be left their full length, or there will be no bloom. If they produce gross shoots late in the season cut them clean away in September, unless they are wanted to fill up gaps, in which case tie the shoot down to as nearly a horizontal line as possible. This will check the growth, and tend to its more perfect ripening. The next spring, it can be trained into the place where required. The best of this series is undoubtedly *Jaune Perin*, with yellow flowers of good size, that is for a Banksian; and *Fortuniana*, with double snow white flowers, also larger than the ordinary type of a Banksian. But the old White and less old Yellow Banksian are beautiful in their way; and where Banksian roses can be grown without risk, they should certainly have a place.

Lastly, there are some useful hybrid climbing roses, partaking more or less of the characters of the preceding sections, which merit the attention of those who have occasion to use climbers in plenty. *Laure Davoust*, classed above as a Multiflora, is in reality a hybrid, though showing a predominance of the Multiflora character. *Menoux* is a very showy crimson.

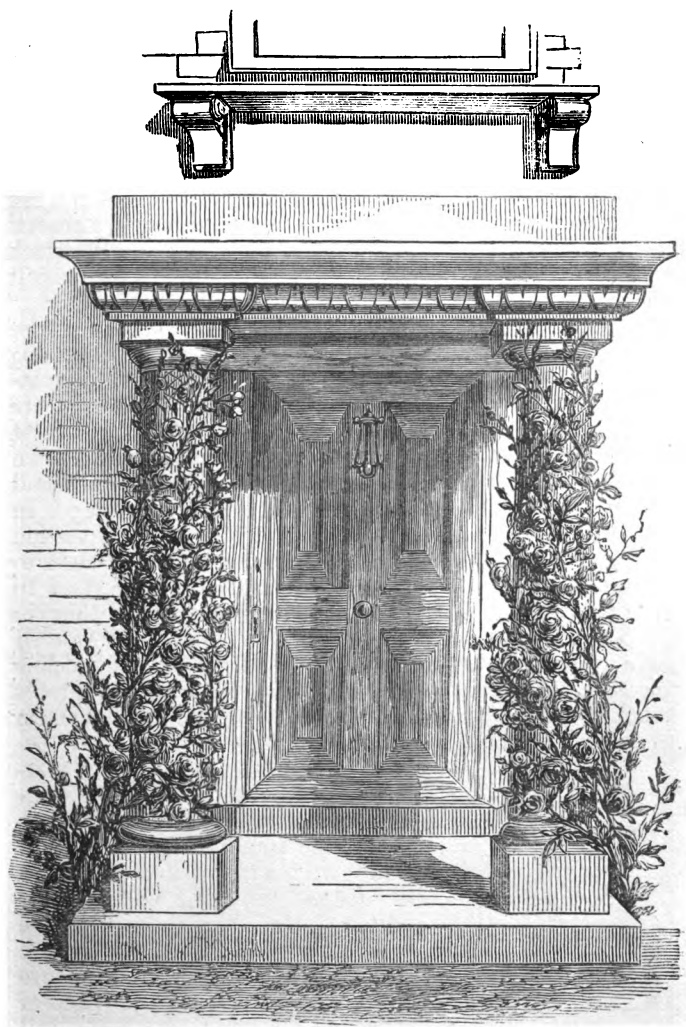
rose, which makes a fine covering for an arch or portico. *Madame d'Arblay*, pure white, flowering in immense clusters, is invaluable for its beauty and rapid growth. It is almost a *Sempervirens*. *Wood's Garland*, lilac and blush, sometimes opening white and changing to pink, is a free growing climber, producing fragrant flowers in large clusters, and in habit closely related to the *Sempervirens*. *Prairie roses* are of no use at all. The *Queen of the Prairies* will succeed in a few chosen spots; but as it cannot be recommended for general use, and is quite unfit for the ordinary wear and tear to which roses must submit in this country, we can afford to dismiss it with the rest of its race as unworthy of further notice.

It frequently happens that after some years of good service roses on walls become poor and flowerless, and thus ceasing



to be subjects of admiration, the few attentions formerly bestowed upon them are discontinued, so that when they most need help they obtain the least, as is often the case with those of our own kith and kin who have bestowed their strength in the service of mankind. The question will often arise how are aged wall roses to be rejuvenated, how shall we restore to them their wonted vigour, that they in return may present us with their wonted bloom? Usually the cause of decline in these roses is that their rapacious roots have exhausted the soil all around them of its nourishment; and they have become decrepit, not by age but by starvation. The process of rejuvenating comprises two operations—a dressing of the soil, and a severe pruning. In the month of September open a trench in a semicircle, two feet distant from the stem of the tree, and remove from this the soil to the depth of eighteen inches, and to a breadth of two feet. At the same time remove some of the surface soil for the space of two feet round the stem where the soil

has not been dug. Fill up the trench with a mixture of turfy loam two parts, and rotten dung one part, and lay



The roses clustering o'er my portal
Breathe welcome to you, fellow mortal.

over the roots which have not been disturbed, six inches of half-rotten manure. In the month of March following cut the rose to within six inches of the ground, and that same summer it will throw up a new set of stems, and flower plentifully the succeeding spring.

The subjoined illustration represents the mode adopted by an amateur for giving his friends a welcome by adorning his doorway with garlands of roses. The pillars are clothed with wire net of large mesh, and to this the sprays are tied and kept in perfect order without using nails, or the least appearance of untidiness.

The less robust of the climbing roses are well adapted to form picturesque weeping standards for the lawn, in which case it is advisable to plant in the first place young thrifty briers in well-made beds, and afterwards bud and train *in situ*. It must never be forgotten that an *established* brier is always to be preferred to one recently transplanted, if vigorous growing roses are to be grafted or budded upon it. We occasionally meet with standards ten, twelve, or even fifteen feet high, and, as a matter of fact, there are some such now in the Cheshunt nurseries. These gigantic standards are ungainly enough, but they suggest what might be done by a cultivator who could command extraordinary briers. Let us suppose one of these briers planted and left alone for one season, and then budded with a first-class climbing rose. We might, next season, make it the centre of a pavilion, for by simply training the growth over a suitable framework, it would form a tent of its own branches, and make a far more magnificent, though not less substantial, specimen than a weeping ash.

CHAPTER XI.

PILLAR ROSES.

THE best pillar roses are those that grow from six to twelve feet high, and produce flowers of a quality good enough for exhibition. If climbing roses are used, the flowers will be of poor quality, though there may perchance be plenty of them; and in the majority of cases the pillars will be less uniformly clothed, though they may have a certain picturesqueness, which only true climbing roses can impart to them. Climbing roses are unsuitable, because usually they grow too fast and free. A moderate growth with a superior style of flowers are qualities to be preferred in forming objects that are likely to be closely and frequently inspected, and that under any circumstances are subjected to closer and more critical scrutiny than roses trained over arches, banks, and the roofs of temples and arbours. The more vigorous growing varieties of Hybrid Perpetuals, Bourbons, Hybrid Bourbons, Moss, Damask, Hybrid China, and a few of the hardiest of the Teas and Noisettes, are those usually selected to form pillar roses. No rule can be laid down as to the class of roots to be preferred, for that depends so much on the character of the rose to be planted, and the soil in which it must be grown; and in the general remarks on the families of roses, numerous advices are offered as to the treatment of individual varieties so as to insure the most vigorous growth.

The culture of pillar roses certainly demands some skill; but it is a skill easily acquired by the observant and inquiring cultivator. Let us consider the several points in regular order, so as to dismiss all simple matters with a word, and deal with difficulties as they come before us at such length as their relative importance may demand.

PLANTING PILLAR ROSES.—In any case the soil must be well drained, liberally manured, deeply stirred, and in a sound condition. It should be of such quality as to produce good

wheat or cauliflowers, or it will never produce pillar roses. A pillar rose will require at least one square yard of soil which must not be occupied with shrubs, or grass, or in fact anything but annuals and other flowering plants of humble growth, all the summer; and every autumn this soil must be enriched with dressings of half rotten stable manure. As the pillars need not, and had better not, be fixed till the roses are in their third year, it only remains, after having prepared the soil, to plant firm, and insert one or two ordinary four-foot stakes. If Manetti roses are planted, be sure to place them sufficiently deep to have the point where graft and stock meet two inches below the ground line. Whatever tends to increase the vigour of a rose—such as top-dressings in summer, abundant supplies of water, etc.—must be given to pillar roses; for it is not only desirable to clothe the pillars, but to do so with *stout wood*, which can only be accomplished by feeding liberally. Let us suppose the roses planted, they are then to be cut down to within one or two buds of the base, and allowed to grow the first season as they please, and the more vigorously the better.

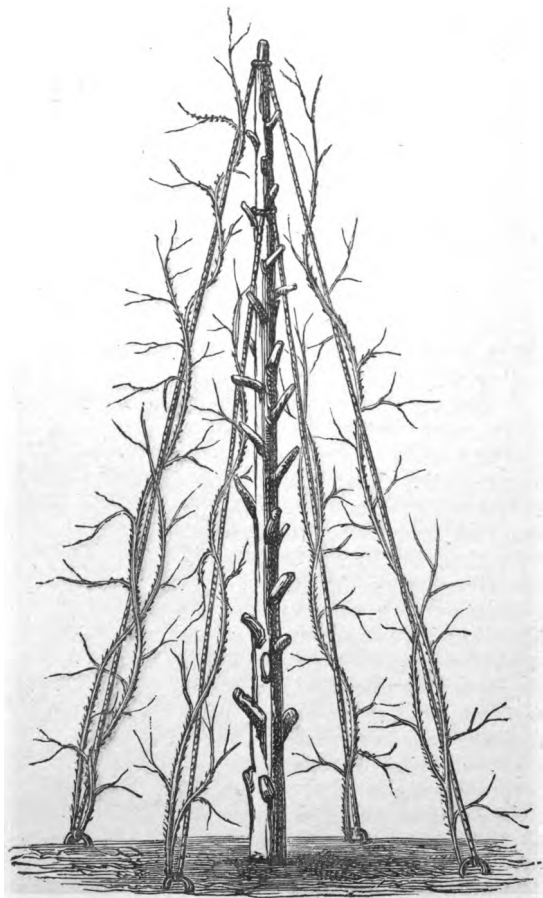
PRUNING PILLAR ROSES.—The second season they will require pruning. Now, to prune them properly, the rosarian must bear in mind that it is much easier to induce a tree to grow to its full height than to induce it to form regular tiers of flowering wood all the way from its roots to its summit. This is true of apples, pears, plums, vines, and hundreds of other trees. Keep the leading shoots upright, and do not prune it at all, and it will grow with great vigour, so as continually to increase its length till it attains its maximum height; but in the meantime, the leading bud having monopolized the sap, there will be but few side-branches formed, and consequently there will be little or no flowering wood produced. The sap of a tree always rushes upwards; hence, if the leading shoots be trained out of the perpendicular, the side buds are developed, and these assume a vertical form in the majority of cases. It is true that trees do produce side-branches without the aid of the pruner, and that these often take a horizontal or oblique direction; nevertheless, the general tendency of the sap is upwards, and one of the first consequences of allowing a tree to grow in its own way is to cause the formation of a bare stem for some distance from the ground line; and that tendency is of itself

a sufficient argument for pruning pillar roses. In a word, if the pruning is neglected, they soon acquire their full height, but have naked stems; whereas, if properly pruned, these stems will be clothed from head to foot with flowering branches. The pruning in the second year will consist in removing by a clean cut, to within one or two buds of their base, all long, weak shoots, reserving two or three of the strongest shoots, and shortening these about one-third or one-half of their whole length. If any doubt as to the application of these instructions, let the rose itself furnish a hint. If it has attained to a great height, and is so regularly furnished with side-shoots as to be already very nearly sufficient to cover a pillar, prune all the side-shoots back to about four buds, and the leaders only a fourth or fifth of their whole length. If it has not grown much, cut it back very hard, removing quite half of the entire growth, so as to conform pretty nearly to this rule—*the more growth, the less pruning; the less growth, the more pruning.* Having accomplished the pruning, lay the shoots down full length on the ground, and fix them with a few strong pegs, so that the wind may not blow them about. This will cause the buds to break—that is to say, will cause the formation of side-shoots the whole length of the rods; and by the end of April, or the 1st of May at latest, they must be tied up to their poles or pillars.



ROSE PILLAR, FURNISHED.

The third season's pruning must be on the same principle as in the preceding year; the cultivator must be more anxious



POLE AND CHAINS FOR PILLAR ROSES.

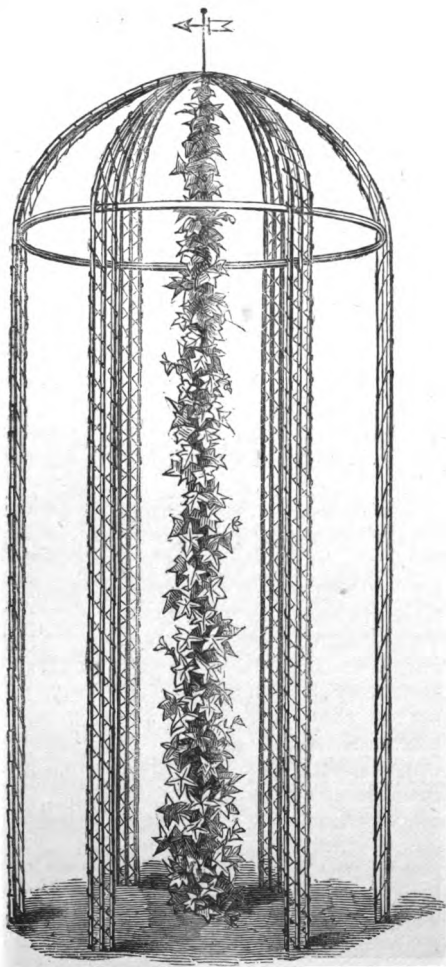
about obtaining plenty of furniture—that is, of hiding the pillar with a plentiful side-growth from the ground upwards.

He need not think much about getting the rose to the top of the pillar ; it will go there in time, and perhaps sooner than will be good for its ultimate beauty ; and if it does not, it is only needful to leave one or two long rods unshortened, and they will soon mount to the summit of their ambition. To begin, then, with the pruning, let us first determine about the furniture of the base of the pillar. Here we find already plenty of weak spray, some well-placed strong shoots, and perhaps a certain proportion of wiry twigs that produced flowers the previous season. All the weak spray should be cut clean out, leaving only the buds at the base to break again ; the same with the wood that flowered the previous year. But the strong side-shoots may be cut to six or eight buds from the base. Where the pillar is bare, cut a few shoots very close, so as to get some vigorous growth to fill up the gaps ; where crowded, thin away the weakest of the shoots, and leave those that are best placed for flowering. Proceed thus till you arrive at the top, then shorten back the leading shoots according to their length and strength, but not severely, to a plump bud, to carry the growth upward the next season.

After this pruning there ought to be an abundant bloom ; and from this time forth there must be very little pruning ; the cultivator's principal care will be to keep the tree liberally nourished, and provide for the occasional *renewal of the main shoots*, for those originally formed will in time be debilitated through excessive production of flowers. It is a good rule with Provence, Perpetuals, and Bourbons to prune in the short ripe side-shoots to from four to six eyes throughout. These shortened shoots will produce flowers plentifully ; and as effect is more desirable than the quality of individual flowers, it is best, after fairly pruning, to allow all the flowers that are produced to come to perfection, helping the tree through the flowering season with copious supplies of water and with strong top-dressings.

The renewing or repairing of the pillar is accomplished by means of the strong shoots that rise from the base. As these appear, tie them in loosely, so as to induce a free growth ; prune them as recommended for the first formation of the pillar, and as soon as they reach half way up the pillar, and are tolerably well furnished with side-shoots, remove one of the old leaders, and let the young one take its place. When

an abundance of young shoots is produced, some must be cut away entirely to within one bud of their base; from the bud



TRELLIS PAVILION FOR PILLAR ROSES.

left a flowering shoot will generally be developed next season, or it may be another strong shoot, which may be useful, though not wanted the previous year; in which case keep it; if not, either pinch it back, and cause it to form a mass of laterals, or leave it to grow its full length, and then cut it back as before. Two more remarks seem needful to complete these directions. By training the leading shoots straight up the pillars they will grow with more vigour; by training them regularly round and round the pole, the growth will be more moderate and regular, and there will be an earlier disposition to form flowering wood. It is well in all cases to allow new shoots to go straight up, and

to twist them the next season after the pruning. This

secures strong wood in the first year, and plenty of laterals in the second. The last remark is, that poles and pillars should not exceed twelve feet; and when it is determined to have them of that height, the most robust-growing pillar roses should be selected. The better kinds of Hybrid Perpetuals and Bourbons do best on pillars of six to eight feet; if taken higher, it is difficult to keep them furnished at bottom.

We may now offer a few remarks as to the poles and pillars themselves. It is best not to insert these till the roses have grown two years, and when inserted, it must be in a way to stand firm during a gale. Larch poles, with short snags, and the bulky portion of the roots attached, make the best of pillars, for when planted they have a firm hold of the soil, and are not easily blown out of the perpendicular. Old stems of yew are very durable; ash poles require frequent renewal, and being slight, it is best to put two or three close together, and brace them securely with copper or galvanized wire, so as to form one stout pillar. In all cases, it is best if the lower parts of the posts can be charred, as this prevents the growth of mycelium, by which so many roses are destroyed, owing to the proximity of decaying wood to their roots. The superiority of iron must not be overlooked, for not only is wood perishable, but the soundest wooden pole may be snapped short off by a gale. If iron poles are adopted, they should be one inch in diameter, with triple prongs proportionately stout, and the prongs should be from one to two feet in length, proportionate to the height of the pole above ground.

When climbing roses are used conjointly with genuine pillar roses, very beautiful effects may be produced. The climbers may be trained as fast as they will grow, without any pruning, to cover the roof of a temple, and the pillar roses trained to the trellis supports, which by a regular course of pruning they may be made to cover completely. To form a simple rose temple is a matter of no great difficulty, as suitable breadths of stout galvanized wire trellis can be obtained at a cheap rate, and the roof might be either of zinc or copper, or left open by continuing the breadth of trellis in a graceful curve to the apex. There can be nothing more suitable for the centre of a rosarium; and, besides its elegance as an architectural object, it serves the useful purpose of displaying varieties that are only seen to advantage when allowed to

grow to vast dimensions. Other and more simple methods of training will occur to the ingenious rosarian, as, for instance, the *designs annexed*, which will explain themselves to consist of tall poles sustained by trellises, chains, or wire ropes. In the case of a pole and chains, the pole may be covered with a climbing rose, or with ivy, the dark green of which will show up the roses trained to the chains very effectually.

Ah ! see, whose fayre thing doest faine to see,
In springing floure the image of thy day !
Ah ! see the Virgin Rose, how sweetly shee
Doth first press forth with bashful modestee,
That fairer seems the lesse ye see her may.
Lo ! see soone after how more bold and free
Her bared bosome she doth broad displaye.
Lo ! see soone after, how she fades and falls away.

—SPENSER.



THE DOG ROSE.

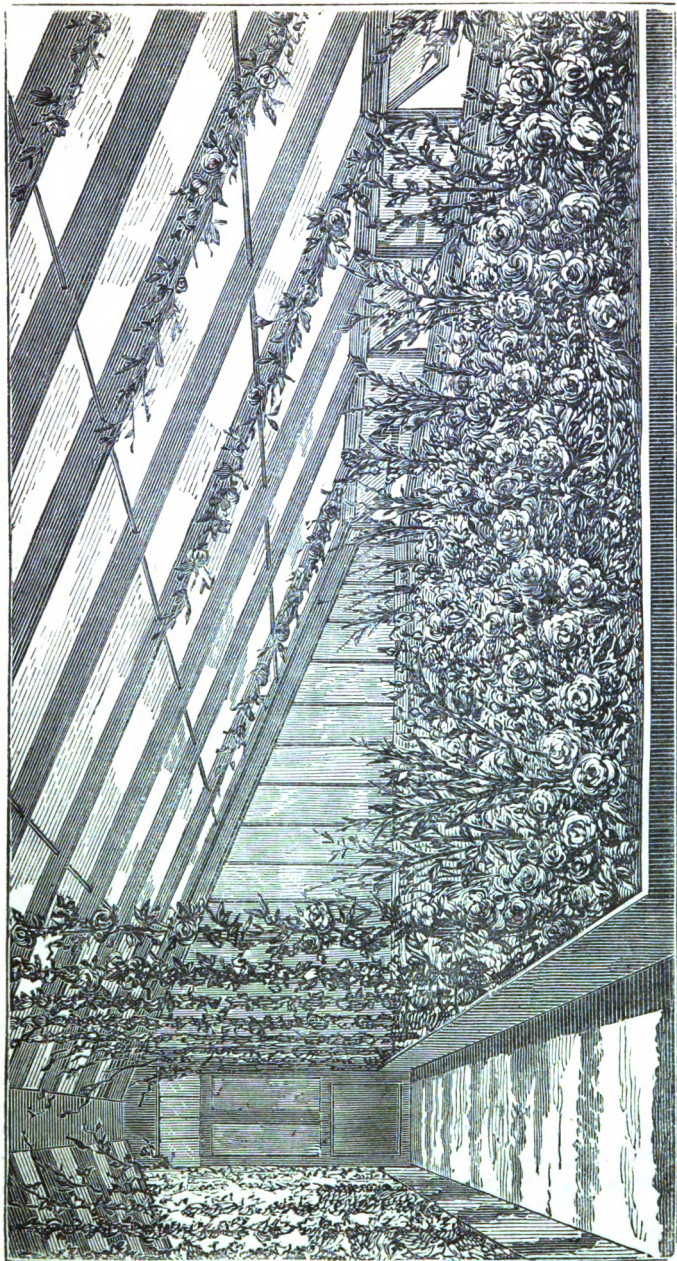
CHAPTER XII.

ROSES UNDER GLASS.

THE cultivation of roses in the greenhouse and conservatory is attended with some amount of difficulty, and should never be attempted until experience has been obtained in the management of roses in the open ground. The best proof of the difficulty of growing roses under glass is afforded by the periodical exhibitions of pot roses, both at special and general horticultural exhibitions. The reader will ask, with surprise, perhaps, if it is not usual to see at the great London flower shows in the months of April and May, displays of pot roses that are equally remarkable for perfection of training and growth as for the profusion and splendour of their flowers? The reply must be that these magnificent roses illustrate the whole of the case we have to consider, for they are invariably presented by experienced trading firms that devote a large share of their energies to rose growing. Probably there are not so many as half a dozen trading firms in the whole range of the British islands capable of finishing pot roses as they are finished by the competing giants whose productions have for many years past constituted leading attractions at South Kensington and Regent's Park. There are thousands of trade and amateur cultivators who can grow roses superbly both for the decoration of the garden and to cut for exhibition, but the number of those who can manage pot roses in the very highest style, may be counted on the fingers, and leave fingers to spare. From time to time spirited amateur cultivators of the highest talent, men who have attained numerous honours in pelargoniums, cinerarias, heaths, and other exhibition plants of widely different character, resolve on entering the lists with the leading growers of pot roses, and they invariably fail. The explanation is not hard to find. To do perfect justice to pot roses, the cultivator should have

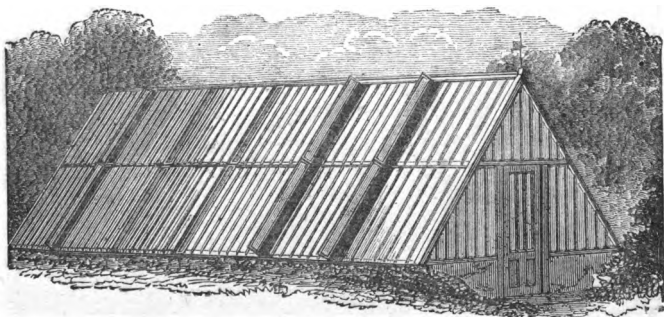
nothing else on his mind. They are the most exacting of all known plants; they surpass ericas and orchids in the amount and minuteness of the attention they require; and when first-rate cultivators fail in their management, it is usually because they have many other things to think of, and the roses are the most emphatic to resent even the semblance of neglect. Any lover of roses who has acquired experience in handling them, and is really skilful in the art, may attain to proficiency in the production of pot specimens, if he will devote himself to the work rather as a duty than a pastime, and allow nothing to divert his attention from it. There is no mystery to be unfolded, no secret to be taught, no peculiar difficulty to be explained. The rose is not well adapted for pot culture, and being liable at all times to suffer from heat, cold, drought, damp, mildew, vermin, and mismanagement, these several enemies become additionally dangerous the more the plant is subjected to artificial conditions of existence. A rose in the open ground can fetch its own water if there is any moisture in the soil within two or three feet of the surface, and it can drink as much as it likes of the dew of heaven all night long; but a rose in a pot is entirely dependent on the discretion of the cultivator for food, water, air, light, and other necessities of life, lacking any of which, or having excess of any, it is in danger, and if it does not die, must part with its health and beauty. The amateur who has but little time for gardening, had best not attempt to grow specimen pot roses, but he may find recreation in growing pot roses that will be useful, and a credit to his skill, without entering on the higher walks of the art, if he will be content with such small triumphs as come within the range of his opportunities and appliances.

The simplest, and in many respects the most enjoyable way of growing roses under glass, is by planting them out on well made borders. The subjoined figure represents a rough span-roofed house of low pitch, in which a friend who grows roses for Covent Garden Market, produces the principal part of his supply. The house is ventilated at the sides and along the ridge, and being a very light and inexpensive structure, it is necessary to support the ridge line with two rows of iron gas pipes, or as they are termed in the trade, "gas tubing." The beds in which the roses are planted are raised above the level and supported by rough boarding, but as a matter of course



ROSE-HOUSE WITH ROSES PEGGED DOWN.

a brick wall would be preferable. These beds consist of two feet depth of a first-rate mixture, resting on two feet depth of large brick rubble. The mixture may be said to consist of three parts loam from rotted turf of one spit only, one part fat manure, and one part rough gritty stuff consisting of broken brick, sharp sand, and the coarser part of charrings from a garden smother. The greater portion of the roses are pegged down on the bed; others are trained up the rafters and the gas tubes, which we must now call pillars, and the result is a delightful garden of roses, wherein during the sometimes bleak weather of March and April, a lover of them would be delighted with the fresh and ample green leafage and the swelling buds, with here and there a precious flower full out, to afford a foretaste of the "feast of roses" that is nearly ready. As this house is not heated, the difficulties of management are few. The crop is all cut and sold before the end of May, and then the lights are taken off that the roses may enjoy sunshine, and rain, and dew, to perfect their growth for the following season.



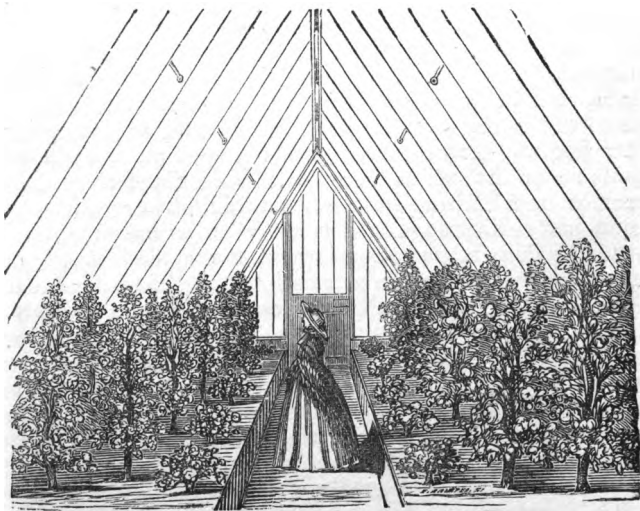
PAXTONIAN ROSE-HOUSE AT STOKE NEWINGTON.

The author's rose-house affords a better example of the kind of structure and practice adapted for the majority of amateur rosarians, the very rough-and-ready method of the trade grower being accompanied with too many rough-and-ready appearances, to be in all points consistent with the neatness that should characterize a private garden. Our rose-house is a span-roofed structure of the Paxtonian pattern,

supplied by Messrs. Hereman and Morton, and is fixed somewhat below the general level, as shown in the accompanying figure.

It will be observed that the roof has a sharp pitch, and the glass is continued to the ground line. The proper position for such a house is running north and south, as it then benefits by sunshine during the whole time the sun is above the horizon. The steep pitch favours the gathering of sun light and sun heat in spring, for the merest gleam of the early sun that touches the ridge line exercises a beneficial influence, light and heat being quickly dispersed from above in a plant-house, while at the same time the air is put in motion. In a district where cats abound a steep roof is a protection against them, for they will hold wittenagemotes and courts of love on glass roofs of easy slope, and should the heaviest delegates or the entire court fall through, a little mischief will follow inside. The sinking of the basement below the general level answers two important purposes. In winter frost does little harm, and it must be very severe to be felt at all; in summer the roots of the roses are kept cool, and consequently they hold their leaves longer, make stouter wood, and ripen their wood more completely. It is particularly important to secure, in connection with the low basement and steep roof, the most perfect drainage and ventilation. In the example before us, the drainage consists of common tunnel and sole drains under the centre line of each border, and these drains terminate in a drain of large bore outside. The walk is concreted, and is, therefore, as dry in winter as in summer, and yet every drop of surplus water in the borders is quickly drawn away. As for the ventilation, the Paxtonian system provides sufficiently, for it will be seen that the lights are divided by ventilators the length of the slope all through. A house of this make may, of course, be of any length, but it should not be less than ten feet in width, to allow for walk three feet and borders three-and-a-half feet each. A better, and, we may as well say, a proper minimum width is 16 feet, to allow for walk four feet and borders six feet each. It is not necessary for ensuring a good and early bloom, to provide for such a house any heating apparatus, but if forcing is intended, there must be a good service of hot-water pipes, for a flue is not to be thought of, and fermenting materials would make a barbarous mess. However, as a matter of fact (tell it not in

Gath), a great body of tan or stable manure, in a right state of age and moisture, might be laid up along the central walk—using the walk as a trench made for the purpose—with wonderful effect, to promote a strong and early bloom with a delightfully bright green leafage. If any wavering amateur wants a word of advice to “turn the scale,” our advice is have no artificial heat at all, but be content with the lovely roses that will begin to open in April, and rise to a fulgid flush in May, for these may be enjoyed without expense or trouble, or fear of disaster; but the instant you take Promethean fire among roses you become a candidate for Promethean pains and penalties. In a kindly season the roses will begin to flower in the first week of April, and if they are cut freely, and not one is allowed to run to seed, and the management otherwise is what it should be, there will be plenty of flowers up to the end of June, when all unexpanded buds should be nipped out, to prevent further exhaustion, and give the plants a chance of recruiting for their next display.



INTERIOR OF ROSE-HOUSE AT STOKE NEWINGTON.

The view of the interior will show that the roses are all planted out in the two side borders, and the way they are

planted may be worth telling to those who are fond of Tea roses, and have no prospect of growing them well in the open ground. It was originally 35 feet long, but as the roses wanted more room, the length was increased and the roses were lifted, the border renovated, and the trees were planted at a greater distance apart than was allowed them in the first instance. As enlarged, the house measures 50 feet long, 16 feet wide, and is 12 feet high from the path to the ridge. It is, therefore, strictly a miniature rose-house. The borders are 80 inches wide, and are kept up by means of stout planks, neatly planed, and painted stone colour. The walk is sunk 15 inches below the top edges of the boards, and it consists of a mixture of fine gravel mixed with Portland cement, laid down on a bottom of hard stuff, and then watered and rolled while wet with a garden roller. It has the fresh colour of good gravel, and is as hard as a pavement. The borders were prepared with great care; for Tea roses will not endure damp at the roots in winter, and they require a light, rich soil. First, then, along the centre of each border is laid a drain to carry superfluous water quite away. These drains communicate with the main drain which passes the house, and thus all stagnation of water in the soil is prevented. Over these drains is laid about six inches of broken brick and tile, and then twenty-four inches of soil, consisting of thin slicings of turf from a loamy pasture previously laid up and the grass quite rotted, hot-bed manure, leaf mould, the top pulverised crumbs from a bank of clay, and old plaster broken fine, equal parts all through. It is full of nourishment, firm and yet light, and the roses root into it as they do in forest loam in pots; that is, they make masses of fibre, and no rambling fleshy roots. The cut will show that the roses are planted in three lines, the weak growers in the front, and the more robust kind on the centre and back of the border. They are *all on their own roots*, which is the best way for free growth, good flowers, and never to be plagued with suckers. They were all planted in August, and were all small plants in 60 and 54-sized pots, and most of them bloomed well the first autumn, immediately after being planted out.

There are ninety Tea roses planted out in the borders, namely, forty-five on each side, in three rows of fifteen each. In the front line, being weak growers, are *Abricote*, *Archimede*, *Auguste Vacher*, *Bride of Abydos*, *Canary* (a lovely rose in

bud), *Clara Silvain*, *Duc de Magenta*, *Elise Sauvage*, *Enfant de Lyon*, *Josephine Malton*, *La Boule d'Or* (a gem among Tea roses), *Louise de Savoy*, *Devoniensis* (comes finer under glass than in the open air), *Madame Blachet*, *Madame Falcot*, *Madame Halphin*, *Madame Bravy*, *Madame Lartay*, *Madame Pauline Labonte*, *Madame William*, *Mirabile*, *Nina*, *Nisida*, *President*, *Reine de Pays Bas*, *Souvenir de David*, *Vicomtesse de Cazes*, *Semele*. Centre and back rows—*Adam*, *Amabilis*, *Belle Chartronnaise*, *Belle de Bordeaux*, *Bougere*, *Buret*, *Comte de Paris*, *Comtesse Ouvaroff*, *Comtesse de Woronzoff*, *Delphine*, *Gaudot*, *Eugene Desgaches*, *Gerard Desbois*, *Gloire de Bordeaux*, *Gloire de Dijon*, *Goubault*, *Homer*, *Madame Damaizin*, *Madame de St. Joseph*, *Madame Villermoz*, *Mareschal Bugeaud*, *Marie de Medicis*, *Marquise Foucault*, *Moiret*, *Narcisse*, *Niphetos*, *Ophelia*, *Regulus*, *Safrano*, *Socrates*, *Sombreuil*, *Souvenir d'Elise* (the grandest of all Tea roses, sometimes as large as a breakfast cup, and petals as thick as cardboard), *Souvenir d'un Ami*, *Triomphe de Guillot*, *Triomphe de Luxembourg*. Some are repeated.

In a larger house the vigorous growers might be taken up the rafters, and allowed there to form festoons. Several of the Noisettes would serve for the same purpose. *Marechal Niel*, *Ophirie*, and *Jaune Desprez* would make magnificent climbers under glass. In the case of a lean-to, Noisettes and Banksians might be planted against the back wall. It should be a fixed rule to grow roses and roses only in a house ostensibly devoted to roses, for nothing else will properly mix with them when planted out; and the reader need not be told that planted out roses are much less trouble to manage than in pots, and they grow and bloom with considerably more vigour.

The only difficulty likely to arise in the management of such a collection is an occasional outbreak of green fly. The best way to deal with this, is to fumigate with strong tobacco. A self-acting fumigator occasions the least trouble, but trouble must not be thought of. At the first appearance of fly close the house, put wet mats over all the crevices, and quickly fill it with a killing dose of the strongest shag tobacco. The plants should be quite dry when fumigated; the fumigation should take place in the after part of the day, and next morning every leaf should be well washed with a shower from the syringe.

FORCED ROSES.—Pot roses for the conservatory and for



CLIMBING ROSE.—PRINCESS LOUISE VICTORIA.

plunging in the flower garden may be obtained in fine condition with very little trouble. In the development of our "plunging system," at Stoke Newington, pot roses have been largely employed and with unvarying success, the system securing a bright growth and early bloom with but little trouble. The earliest in flower answer admirably for conservatory decoration, and the latest with the earliest, after they have stood some time in the conservatory, are valuable to fill plunge beds out of doors after the potted tulips, hyacinths, and alyssums have had their day. For a little bijou plunge ground in a sheltered nook near a window, this system of dressing is the most complete of any; but the scheme of operations must comprise a display of roses in the month of May. But it does not require a plunge ground to turn to account a lot of pot roses that have been skilfully forced, for no matter how many you may have you will probably wish you had more, and as there is some risk in putting them out of doors even in the month of May, it will be safer practice to employ them all in the conservatory and the corridors and the entrance hall until they lose their freshness, and then promptly remove them and provide other seasonable furniture to succeed.

With a view to render this chapter minutely practical, we kept an account of a lot of pot roses from the first stage of production to the last, and when they were in their prime we had portraits of two of them painted, copies of which we now present in illustration of this record of operations. We began by budding a lot of short young briars in a nursery piece. These, as they grew, were several times pinched back, and being at the same time well fed, made a free-spreading growth, the result being round compact heads without any long rods or crossing branches. They were allowed two seasons' growth, and were then considered ripe for potting. When taken up they were slightly pruned back, and every incipient sucker carefully cut away from the roots. This took place in the autumn of the second year after budding; and that there may be no confusion in the reader's mind as to the time allowed, we set forth the order of procedure chronologically, supposing operations to commence in 1874:—

In the summer of 1874 insert buds.

In the summer of 1875 pinch and regulate.

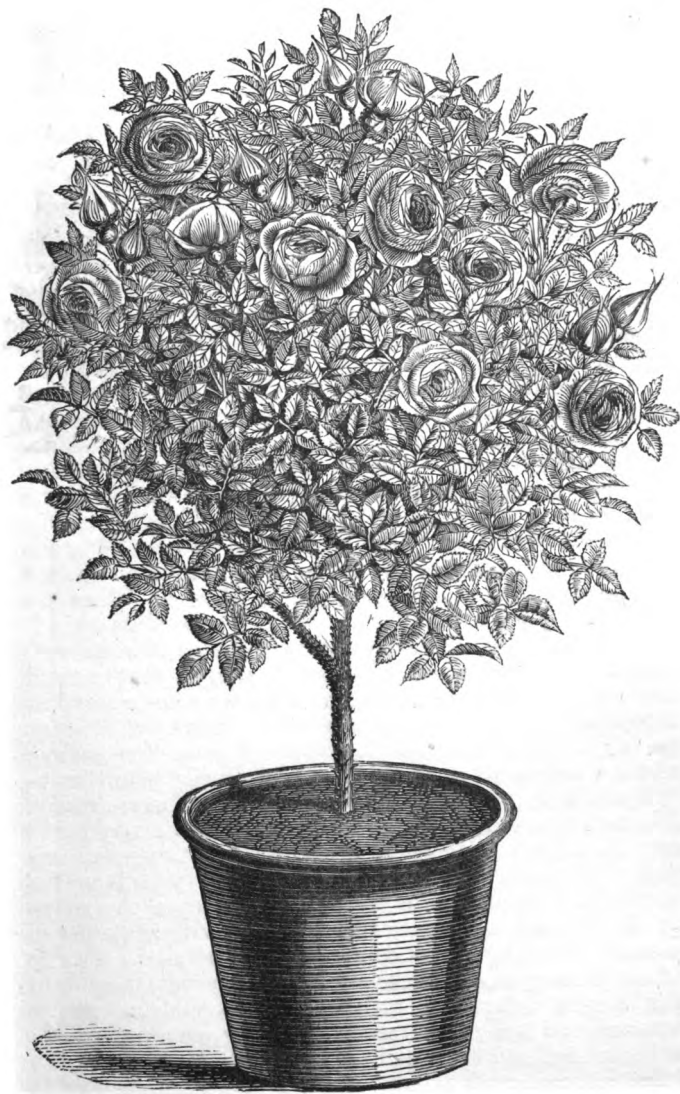
In the summer of 1876 pinch and regulate.

In the autumn of 1876 pot for forcing.

K



POT ROSE GENERAL JACQUEMINOT.



POT ROSE COUPE D'HEBE.

K 2

If the cultivator cannot devote so much time to production, he must go to a nursery and buy, and he will have no difficulty in obtaining plants properly prepared to reward him for his trouble.

But to return to the record. These little trees were potted in 8, 9, and 10-inch pots, in every case the smallest pot being selected, to allow reasonable room for the roots, for the sooner the new roots touch the sides of the pot the better. The compost consisted of the top crumbs of a heap of clay that had long been laid up, frozen in winter and baked in summer, with mellow turfy loam, rather fat old hot-bed manure, and gritty leaf mould (consisting for the most part of grass mowing and sweepings of gravel walks), equal parts all through. In some cases they were potted with the stem close to the pot, but whenever the roots would allow they were placed neatly in the centre "ship-shape," and in every case the shortened roots were carefully spread out, and the compost was rammed in with a wooden rammer until it was as hard as a brickbat. They were then all plunged to the rim in a bed of leaves in the open air, and taken very little notice of till the middle of April the next year. Then a great bed of long dung was made up *in the open air*; the bed two feet deep in a sheltered spot, in fact on the south side of an old hedge. When the bed was nicely warm (about 60°), the pots were plunged in it nearly to their rims, and every night a few cans of water were plunged as well, and out of these cans those that wanted water were supplied next morning. They were never searched for maggot, they were never washed or dusted for fly, they were bright as new waxwork from the first leaves they pushed, and the young wood came thick as lead-pencils, with thumping flower buds in plenty. As soon as the buds were showing fairly we began to help them with guano, but in a very rough way. About a tablespoonful was put into a two-gallon can every night when the cans were filled and placed on the plunge-bed. As soon as a few flowers were open the guano was discontinued, but plenty of water was given, and a few of the rather wiry-growing kinds were assisted by means of twigs and ties to carry their blooms nicely, but as a rule they held their flowers nobly, and took care of themselves. A few frosts occurred late in the season, but they were untouched; the hedge sheltered them, and the constantly-escaping warmth of the bed preserved about them a genial atmosphere. At

the end of May there was a good show of flowers, and the bed was cold. They were then transferred to a sheltered fore-court, where a display of some sort is always required, and were there plunged to the rim ; and they flowered freely till the end of June, and were then beginning to lose their looks through being under the shade of trees.

The next process consisted in removing them back to the plunge-bed, but before they were placed upon it they were slightly pruned and pinched, then plunged as before, without the aid of artificial heat, but with all the assistance of a cool and constantly-moist condition of their roots. Now guano was used again, and as fast as flower-buds appeared they were nipped out. By the end of September they were quite at rest, and were lifted out, and only just in time to prevent a second growth, for the roots were pushing into the plunge material, and a warm autumn would have renewed their activities. They were now carefully pruned with a view to the formation of handsome round heads. They were next shaken out, the roots moderately shortened in and repotted—some in the same pots they came out of, some in pots a size larger, and in every case an endeavour was made to get the stems in the centre, as they were now to be considered pot roses in the properest sense of the word. They were housed in a cool, clean, light pit, were fully exposed to the weather till Christmas, and were then placed in a large light pit on a bed of warm leaves, and they began to push nicely. About the middle of February they were placed in a house with a low-span roof, the pots standing on a wooden floor over which was strewn a couple of inches of rotten hops. A service of 4-inch pipes kept this house at an average of 45° by night and 50° to 60° by day, according to weather. Very little air was given for some time, but as the season advanced air was admitted freely on fine days. A temperature of 70° was allowed sometimes, when the wind was in the east and the sun shone brightly, and syringing was practised daily. Once more, as soon as the flower-buds appeared, a pinch of guano was put in the water-can as before. In the month of April the house was as rich in leaves and flowers as any rose garden in July—richer, in fact, for roses properly forced are ten times more lovely in both leaf and bloom than the best that can be grown in the open air. The sorts included Teas, Perpetuals, and Bourbons.

In the event of a large demand for pot roses for plunging, such nice young plants as we have been recommending may not be obtainable in sufficient quantity, in which case old stumpy plants that have anything like heads may be turned to account by potting early and pruning close, and as soon as they have filled their pots with roots, helping them with liquid manure. They should be flowered in a good pit, for anything like forcing would ruin them. When in flower they may have some such appearance as in the subjoined figures, which, though far below our style, may for some purposes be described as "not so bad."



The novice will be prepared to protest that his idea of forcing roses is to have them in flower at Christmas, and to save contention, we agree with him that the idea is sound and proper, and must be encouraged in such a book as this. Very well, good friend, you shall have a nice bloom at Christmas if you will follow our instructions, and it is proper to inform you at once that, *to do the thing well*, you should go through the practice thus far prescribed, and the result will be that you will have a grand lot of pot roses of your own making to begin with, and from these you will make your selection of such as are to be forced according to our now expanded idea.

As it is rather sharp practice to secure a good bloom of roses on Christmas Day, it must now be remarked that healthy thrifty plants that were slightly forced the previous season will answer better than plants taken up from the open ground. And as many as possible should be set aside for forcing without disturbing their roots, but those that are not repotted must be assisted by a careful removal of the top crust of soil, in place of which a mixture of fat manure and sweet gritty leaf mould should be laid on and pressed with some force into all the hollows and crevices. Life is short, and Art is long, so the poet tells us. If this tedious system of producing roses for forcing does not suit your notion of enjoying life, you must go to a nursery and buy the plants ready made, and it will be well to remember that if the nurseryman charges a high price for them, he has to be paid for the years of attention the plants have had, and it may be—we shall not insist lawyer fashion on this point—he has to be paid also for the number of years he has devoted to his business to become master of it.

But to return to the pot roses. The business now before us begins on 1st of August. If you begin later and fail, please not to blame the Rose Book. In selecting the plants, give the preference to such as have made a good plump growth, and are beginning to become brownish or purplish, indicating a desirable ripening of the wood. If they must be repotted, they must, and there is an end of that matter; but a certain number, say one half, must really be refreshed at top without disturbing the roots at all, or you cannot make sure of flowers at Christmas. Those that were potted may perhaps be put into the same pots again, after having been carefully picked over, but in any case pots only one size

larger must be used, they must be finished with a good ramming, and the operator must endeavour to disturb the roots that are close home as little as possible.

Having settled the potting, put the plants on a sunny south border, every pot standing on a tile or slate. Mind, there must be no plunging, for the sun must shine on the pots as well as the branches, and regular supplies of water must be given, for although we want no new growth above, we do want the roots to work quietly into the new stuff, and we must have the wood and the dormant buds kept in health and condition. It will be well to surround each pot with a lot of short stakes, to which the head of the plant may be tied out, both to improve its shape and promote the perfect ripening of the wood. Tie them out as hard as you can without snapping or straining, and the result will be a thrifty swelling of the buds at the base of the shoots, and a consequent equalization of the growth and bloom.

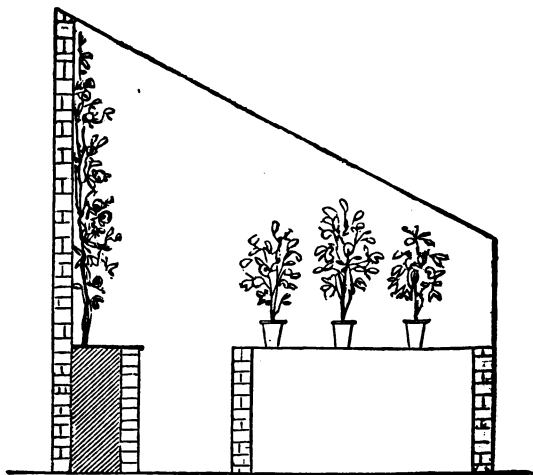
We will suppose the 1st of September has arrived. Now the trees must be put under cover and kept cool and dry. Perhaps the best place for them is an orchard-house, the ventilators and doors being left open night and day. A structure may be extemporized by taking a large cucumber frame, and placing it on four large flower pots or any other suitable supports at the corners. It will be well to make it *slope to the north*, for the cooler the trees are kept the better. Put the plants in the frame, each on a brick or tile, and put on the lights, and give them no water. The breeze blowing through will constitute an *artificial winter*, and the trees will be deluded thereby into a state of rest.

We will suppose the 1st of October has arrived, and now the business of the cultivator will be to take off the lights and let the rain beat on the trees if it chooses to do so, and in the meantime, he must prune them and prepare them for forcing, taking care to have them all housed before the month is out. After pruning, paint them all over, using a *soft brush*, with a mixture consisting of soft soap and clay made into a thin paste with tobacco liquor. The way in which they are pruned is of some consequence, for if pruned "too hard," that is, if the shoots are cut too close back to the old wood, the flowers will be pruned out of them. Be careful, therefore, and prune tenderly, remembering that for early forcing the buds at the ends of the shoots are the most

likely to open well, and a plentiful bloom is of more consequence than a perfectly-balanced plant. Keep the roots moderately moist, and the heads of the trees as cool as possible, continuing by this treatment their artificial winter.

We will now suppose the 1st of November has arrived, and the routine of forcing must commence. The best structure for the purpose is a lean-to with a good stage in front, and it will economize the back wall to plant it with *Devoniensis*, *Marechal Niel*, and such, as shown in the subjoined figure.

But any sort of house or pit will do, provided it is *light*, and can be kept at a moderately warm temperature—say 60° to 65° by day, and 50° to 55° by night, in dull sunless weather such as we usually experience in in November and De-



cember, with a rise of 5 to 10 degrees when the sun shines. This rise of the temperature during sunshine must be accompanied with extra air, but very much depends upon whether the plants are placed close to the glass, in a very light structure, as well as upon the condition of the plants as to ripeness and plumpness of wood. If the plants are in fine condition, with hard wood and promising well, they may enjoy a rise of 5° or even 10° with sunshine, without harm; but the safest plan is to adopt the minimum temperatures given above, and if the plants break strongly, and put on a dark green and vigorous foliage, it will be a sign that a cautious increase of temperature may be indulged in; but if, on the contrary, the foliage is thin and pale, and the shoots weak, the contrary course must be pursued, and more air

admitted. It may be no harm indeed to observe here that *slow* forcing is safer and easier for beginners than *fast* forcing; the practitioner must therefore make his own choice.

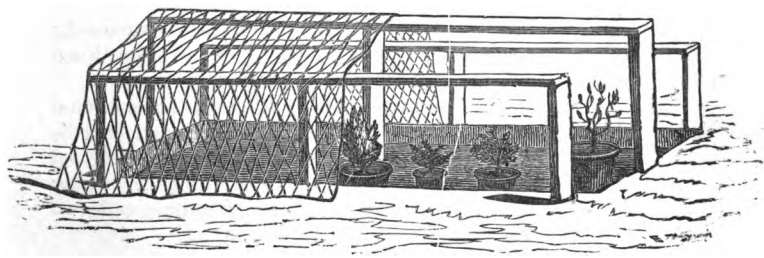
It is somewhat difficult to calculate the precise time it will take to bring the plants into flower, so much depending upon the amount of sunlight we may or may not get, and the condition the plants are in when taken in to force. It will be better, therefore, to introduce a few plants at intervals of a fortnight, beginning early in November. If a moderate degree of bottom-heat can be secured to the roots, it will be well; this may be accomplished in various ways, such as plunging in tan, leaves, or other fermenting material, or over a tank, or even upon a rack placed above the pipes or flue by which the house is heated; if by the latter mode, especial care must be taken to preserve a moist atmosphere about them by frequent syringings of the heated surface, and by painting some part of the same with sulphur, to keep off red spider. Watering must also be looked to, to see that when given it is in sufficient quantity to pass out at the bottom of the pot; and the water should be in a tepid state, and slightly coloured with some liquid manure, such as the drainage from a farmyard or cowhouse; but if it has to be made for the purpose, steep deer, sheep, or horse droppings with a little soot (tied up in a bag) in water, in preference to stirring guano or other artificial manure in the watering can, as in early forcing any sudden or severe stimulation of the roots may cause the flower-buds to fall unopened.

Green-fly must be looked for, and the usual remedy, tobacco smoke, applied without loss of time. Frequent syringing overhead with tepid water will do wonders to keep down green-fly and red spider.

After the plants have flowered, they must have protection in some structure where they can finish their growth, and be protected from injury until the season is sufficiently advanced to allow of their being placed out of doors. If you follow these instructions faithfully, you will, in the depth of winter, enjoy—

A bower of Arcadian sweets,
With Flora still in her prime,
A fortress to which she retreats
From the cruel assaults of the clime.
And when earth wears a mantle of snow,
Have her roses as fresh and as gay
As the fairest and sweetest that blow
On the beautiful bosom of May.

POT ROSES FOR EXHIBITION.—We may now, having acquired experience, take a bolder flight, and grow pot roses for exhibition. The sizes of the pots in which roses are grown for exhibition must be determined by the schedules of the shows whereat they are to be exhibited. But it is impossible to grow roses fit for show in less sized pots than nine inches diameter; and for grand specimens the pots must be fifteen inches in diameter. Between these two extremes the cultivator must take his choice, according to the requirements of the schedule and his own means and taste. As a rule, the best plants for show are those worked on short straight brier stems, six to eighteen inches high, but Manetti bushes are eligible, and so are trained climbers on Boursault, Banksian, Félicité, Manetti, and Own Roots. From the very first it must be borne in mind that to exhibit twelve the cultivator should have in hand at least thirty-six, and so on for every distinct effort at exhibiting, for it is impossible to rely upon having so many in bloom and in exhibition condition for such and such a day. If a hundred were grown, it might be difficult to find a dozen fit for show on a day perhaps well adapted to roses generally. But as the dates of shows are fixed before any one knows what sort of season it will be, the exhibitor must have two strings to his bow, first plenty of plants, and secondly skilful management. Supposing stems to be preferred, the selection must be made in October or November, from a batch of budded plants that have been



grown with a view to be flowered as specimens. Choose from these such as have a regular disposition of stout hard wood; if the shoots are as regular as the ribs of an umbrella, the better for the shape of the trees hereafter. But it is equally

important to see that the roots are good, and of such a kind that the plants can be potted in the centres of the pots ; for if there are huge knobs of underground timber, such as often occurs on old briars, they cannot be potted properly, and must be rejected. Having selected the plants, proceed to shorten the longer shoots about a third of their length, and then pot them, using two parts sound turfy loam and one part rotten stable dung, and ramming the soil into the pots quite hard. Place the pots on a hard pavement of stone or slate out of doors, and fill in between the pots with sawdust or old tan. To protect them against injury by frost, a few uprights and rails may be arranged on which to throw mats or nets, as in the cut.

In case of very severe frost throw a little loose dry straw or hay amongst them, and they will escape unhurt. At the latter part of February, take them out and prune them. This must be done with care, and according to the rules laid down for pruning the particular groups and varieties. The operator must have in view the formation of a close and symmetrical head, and symmetry must be thought of more than size, because the size can be enlarged from year to year ; but it is very difficult, if the head is badly shaped in the first instance, to improve it afterwards. Where two branches cross each other close to the work remove one of them, and that the weakest or the one most twisted out of a natural position. Shorten all the strong shoots to within an average of six buds of their base, and the weak shoots to an average of two buds of their base. They must have liberal culture all the summer, abundance of water till the middle of July, after that but little. They ought to be in an airy position and enjoy full sunshine, and it is very important to arrange them after pruning so as to allow plenty of room for a circulation of air amongst them, and so that any plant can be got at readily without having to reach across another, and perhaps break a valuable bud or shoot in the operation. Take notice how they grow. Those that throw out their branches horizontally, and obliquely, and with tolerable regularity, may be left to grow in their own way. Others will grow too upright and rigid ever to make nice heads without help. Carefully draw down the outside shoots of these with strands of twisted bass, and tie them down either to their own stems or to a piece of bass, passed below the rim of the pot. If drawn

down while young and soft, they will harden into the required position. It does not seem needful to enlarge upon the necessity of keeping the plants free of fly and mildew. If these get the upper hand, your chances of a prize next season are lessened.

Having grown them well throughout the summer, it is important to have the wood well ripened. This will perhaps require no special care. If the autumn is warm and sunny, there will be no fear of the wood ripening; but if it is a wet and cold autumn some precautions must be taken, such as placing all those that look greenest and growing under glass, and supplying them with abundant ventilation and very little water. Or if there is no room for them under glass range them under a wall or fence facing south, and let the pots be exposed to all weathers till there is danger of frost, and then return them to the bed for the winter.

All further operations are to be conducted with a view to prepare the plants for exhibition the next season. In October or early in November, shift those with the finest heads and most robust growth into larger pots, removing at the same time some of the soil from their roots and using to fill in half turfy loam and half rotten dung. Those that do not require larger pots should be turned out, and have some of the soil removed, and be repotted into the same pots. Every pot rose should be repotted or top-dressed once a year, whether grown for exhibition or any other purpose. At every potting, let the soil be fully two inches below the level of the rim of the pot—in the case of large pots, three inches. This will allow of an inch or more of fresh sheep or deer's dung to be spread as a top dressing as soon as the plants begin to grow in spring, which will materially assist in producing a fine bloom. It is best to make quite a separate affair of the pruning, so as to secure the repotting of the whole stock early, as the formation of fresh roots cannot take place too soon after the season's growth is completed. As for the pruning, that must take place according to the dates at which the plants are required to be in bloom; and here it is proper to inform the amateur, that with all his care he must not depend on having any one batch or any one plant in perfection by a given date, and that is one reason why he should grow a considerably greater number of plants than he would ever purpose to exhibit at one time. But we lessen this

difficulty : first, by having plenty of plants ; next, by pruning them in batches at different times ; and lastly, by forcing some, allowing others to bloom at their natural season, and retarding others. If the collection is large, pruning should be performed once a month, from November to the end of April. Warm greenhouse treatment from Christmas will bring the first pruned batch into bloom early, and thence the supply may be kept up till it is seen whether the season will be an early or late one. If there appears to be a little difficulty to the extent of a week or so in securing a certain number of plants in perfection for a given date, the use of a gentle hot-bed out of doors will hasten, and placing the plants in a cool north aspect, shaded at mid-day by trees, will retard them a week. All these measures of hastening and retarding should be determined on at least six weeks before the date of the show.

The management of roses on their own roots will not greatly differ from that of plants worked on stems. It is desirable in the first instance to remove the three or four lowest buds from the young plants so as to form clean stout stems. To have these stems strong they should grow the first season of potting to their full height, which, if they are well fed, may vary from two to six feet. The next season they are to be cut down to three buds, and from those three the cultivator proceeds to form a close bush, the base of which is within an inch or two of the rim of the pot. These bushes on their own roots are really better adapted for pot culture than the plants worked on briars ; but it is impossible to get them to exhibition size in the same time. The pruning and training out of these bushes will require but a slight variation of the directions given above, the niceties of the culture are to be acquired only by practice ; and it is better at this point to leave the rosarian to his own resources than attempt to explain every possible detail. But it may be well to say that there can be little progress made in the pot culture of roses, whether for exhibition or home use, without the aid of glass. Teas and Noisettes, which make the most beautiful of pot roses, require protection in winter and spring ; and there are times when even Perpetual and Provence roses in pots must be housed to screen them from the inclemency of the blast. Potted plants occasion more trouble than those in the open ground ; but that trouble we suppose furnishes the rosarian

with just the kind of recreation he needs, and he will not be slow to discover that success depends much more on constant attention than on extraordinary skill. Let it be the rule to deal with every difficulty promptly, then neither fly, nor mildew, nor drought, nor frost will be able to do much harm—sheer industry will prove a talisman, and the constant worker will win the day.

THE DEW-DROP AND THE ROSE.

A rose in the moonshine lay quietly sleeping,
Where zephyrs were timidly creeping, creeping ;
A dew-drop crept silently into its breast,
Without waking the rose from its moonlight rest.

When morning dawned, the rose was waking,
While glimmering leaves were shaking, shaking,
And finding a dew-drop so near to her heart,
She prayed he would ne'er from her bosom depart.
She folded him close in the warmth of her love,
As the wings of the mother fold round a young dove.

The morning was dawning, the rose was waking,
And rustling leaves were shaking, shaking.

The gleams of the sun came slily glancing
Where leaves on the branches were dancing, dancing ;
And on the green moss where the rose had been sleeping.
The golden glances came peeping, peeping.
The rose felt a joy in her fragrant breast,
When she saw her loved dew-drop still lying at rest ;
But while she was watching her loved one's eye,
He dissolved as a dream and soared up to the sky.
The sorrowful rose hung her head in weeping,
While the dew-drop went upward creeping, creeping.

So the morning of life may have blessings to cheer it,
And love, like the dew, gem the blossoming heart ;
Though the joy of a life may be gathering near it,
That joy, like the dew-drop, soon, soon, must depart.
But still 'tis for ever a sweet consolation,
If that which we cherish pertains to the sky.
For the fond hope is left in our gloomy probation,
That the dew-drop we cherished still sparkles on high.

There are gardens above where the spirits we love
Will be taken like dews from the roses of this ;
Where nought can destroy, they awake in their joy,
To dwell peacefully ever in regions of bliss.

So to heavenly hopes we may gladly be waking,
Though the heart in its sorrow is breaking, breaking.

—S. H.

CHAPTER XIII.

SEEDLING ROSES.

T page 80 a few remarks are made on the raising of seedling briars. An amateur intending to raise roses of high quality might follow the short code there provided in some twenty lines, and in due time become eminently successful. It is proper, however, to the plan of this book, that the subject should be treated at greater length, and with some circumstantiality.

It is generally believed by amateurs that to raise seedling roses is a most difficult and tedious business; but that is a mistake. There can be nothing easier. To obtain thereby varieties worth naming is another matter, but it would be a serious mistake to suppose that elaborate manipulations in hybridizing, or as we should more properly say, crossing, are necessary. Very few of all the roses that are in the catalogues have been obtained by systematic crossing; they have for the most part been obtained in the same way as good geraniums, good carnations, good dahlias, and good chrysanthemums are obtained; by simply saving seed from the best varieties, and carefully raising plants therefrom. It is nevertheless a fact, that, as a rule, systematic crossing gives the best results, and the rosarian may, therefore, be properly advised to operate on selected flowers with a view to obtain seed of a character predetermined by the operator. If he is not disposed to make so refined a pastime of raising seedlings, he may be content to save seed as he can get it, and take his chance of what it may produce.

Our climate is not quite favourable to the raising of new roses, and that is the principal reason why we have to depend upon the rose gardens of sunny France. Nevertheless, the many splendid varieties that have been raised in this country not only prove the possibility, but afford encouragement to the English amateur, who, in a fine autumn, may ensure abun-

dance of seed, and in a wet and cold autumn must rest from his labours, or gather, perhaps, a score of ripe heps instead of hundreds or thousands. How then is the seed to be obtained? The simplest mode of procedure will be to plant out in a sunny position, on rather poor soil, a selection of the very finest roses known. The site should be dry and breezy; if shut in by trees, or in any degree swampy, it will not produce good seed. A luxuriant growth is not to be desired; in fact, a somewhat starving and roasting condition favour seed production, but the seed-producing plants should not be starved to the extent of impairing their health, for, above all things, we want vigour in roses, and debilitated parents are not likely to produce robust progeny. Every inferior rose that can be got at within a mile of the seed ground should be grubbed up and burnt, and consequently the seed grower must purify his own garden of such, and that will be no hardship, for the best roses anywhere and anyhow must be better than the worst. In the first place the selection should comprise all the first-class typical roses; next, all the most distinct and beautiful of the several classes. The collection should be comprehensive, save and except in this respect, that every variety known to have a weakly constitution, however highly esteemed for its flowers, should be carefully excluded. We have too many weak habited varieties already, and the English raiser should as carefully as possible guard against adding to their number. In selecting for the plantation, any kind of roots will do, and it might be a saving of expense to take from a nursery all the ugly plants of the best kinds, because the shape and attitude are matters of no consequence at all if the object is seed saving merely.

It is an important matter to ensure that the seed is ripe before it is gathered, and on this point mistakes may easily be made. It happens with heps as with grapes, that they often acquire a fine colour in advance of perfect ripening, and as a rule, a hep is not ripe when it is of a brilliant red colour, and if the harvesting of good seed is our object we must wait until the heps are black or nearly so. It may be proper to remark here, that the seed-producing trees should have a little, but not much, care. Above all things they must be kept in good health, and any that show a persistent tendency to mildew should be rooted out and burnt. They will require no more pruning than suffices to keep them in order, for the

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more flowers they produce the better. The novice may reasonably suppose that better seed could be obtained from a few first-class flowers than from allowing the flowers to come freely and to lose somewhat of their substance and doubleness. But the fact is just otherwise. By a somewhat starving system of cultivation, which results in rendering many first-class varieties "goggle-eyed," through deficiency of petals, we secure a fine sample of seed, from which, in all probability, there will result a fair proportion of seedlings characterized by excessive fulness, for the *doubling tendency is in the strain* and will come out at last if encouraged by good cultivation.

The heps having been gathered may be treated in several different ways. The most simple is to stratify them in layers with sand in a damp place, and leave them until March, and then to rub out the seeds and sow in the ground in rows two feet apart, the seeds being six inches apart in the row. Another simple mode of dealing with them is to sow the complete heps in rows as soon as gathered without any attempt to separate the seeds from the pulp. This is Nature's way of raising seedling roses, and although it is a rough way, it has this advantage, that the seedling plants have their proper vigour, for the seed is buried as soon as it is ripe. The result of this method is that the seedlings rise in clusters, and therefore, the heps should be put at least a foot apart in rows two feet apart.

Another method of procedure is to break open the heps and separate the seeds, and sow in pans and boxes, and keep them in frames or pits, or under the stage of a greenhouse all the winter. This is the *best* method, for it ensures early germination without drying of the seed, and gives the cultivator command of the seedling plants from the first. In such a case we should prefer to pot all the earliest plants and flower them in a cool airy greenhouse, and plant out all the late ones and wait a little longer for their flowers. Now the inexperienced amateur will want to know how long he must wait to see the flower of the seedlings? Well, comparatively speaking, no time at all. If seedling roses start early, most of them will flower the first season and the remainder will flower the second. We have flowered seedlings in pots in forty-five days from the date of sowing the seed; but, as a rule, they need five or six months' growing before they flower, and those that flower latest are generally the best. Probably

some of those that flower first deserve to be saved, for they present lovely little flowers, sometimes quite novel in colour, and as round as cherries and not much larger. Some day a prophetic amateur will be wise enough to keep some of the best of the most precocious seedling roses, and by this conservative procedure provide us with a companion race to the Lawrence or Fairy roses, which have been too much overshadowed by the thumpers and thunderers of the exhibitions.

The raiser of seedlings must make much of promises. Whatever promises well must be kept and propagated. A seedling rose never declares itself as "first in the throng" by its first flower, or even by its first half-dozen. Remember that, all you aspirants for floral fame. You must have prophetic insight or you will be continually consigning to the rubbish heap possible competitors with Marechal Niel, or Gloire de Dijon, or Baroness Rothschild, or Victor Verdier, or something else. Let us suppose now that you have a flower of promise. In the first place bring pencil and note-book, give the plant a provisional name or number, and make an entry descriptive of both leafage and flowers; and a very rough and hasty description will suffice. Next adopt whatever measures are most convenient for its multiplication. You may enter a few buds in brier or Manetti stocks, and you may also put a few cuttings or eyes in pans of sandy soil over a gentle hot-bed, so as to ensure a few plants on their own roots. When the cool autumn days return you must separate the plant from the crowd and give it a separate place on rich soil in an open situation, and it must be moderately pruned back to ensure bloom the next season from the ripest wood, and thus, giving it a good chance, you may hope for a reward of your labours. The second bloom will surpass the first, and not unseldom the third bloom will surpass the second; but in the third year your seedling will probably be at the best, and you may make up your mind whether it is best to keep it, sell it, or burn it. Be not troubled if after the careful trial of three years you have to burn many, but notwithstanding such a painful expectation, do the thing well or do not dabble in seedlings at all. You must make stock of every promising plant, and you must courageously destroy all the evidently inferior ones, and of these you will have plenty. In the event of a seedling turning up a trump—and I hope the dear reader who purchased and not borrowed this book will have many such—

what an advantage it will be to have ready-made stock of it ; and, on the other hand, what a disadvantage will you be at if a seedling comes out grandly in the second or third year and you find you have but one plant?—the propagation on promise having had no attention.

It may be well to offer a few advices to amateurs who propose to “make assurance doubly sure” by careful manipulations of selected flowers. If you have the patience to examine the pedigrees of roses—of which by the way we have very few that are authentic—you will find that the pollen parent is the most important of the two. The old rule of going to a flower of high colour for pollen and to one of good form for seed has been considerably modified by recent experiments and observations. Look to your pollen parent first of all, and, generally speaking, think of *form*, *substance*, and *colour*, without reference to doubleness, because amongst the seedlings from varieties that are strong in form, and substance, and colour, a goodly proportion of thoroughly double flowers will come, for, as a matter of fact, doubleness is more easily obtained than any other quality. This is not orthodox teaching, but it is true. Hitherto writers have made it a point that seeds should be obtained as much as possible from double flowers. Our advice is that you starve the doubles into singles, looking for form, substance, and colour, without reference to doubleness, and trusting to your own power to *make petals* when you want them, provided you secure seedlings remarkable for perfection of form, distinctness, delicacy or richness of colour, the substance of a calf skin or piece of pile velvet, or the parchment of a big drum of the very best maker. Pray don't be in a worry about doubleness, so long as you take seed from first-rate varieties, for the doubleness is in the blood, and will come out as time and blood and sunshine contribute to the stamina of the plant.

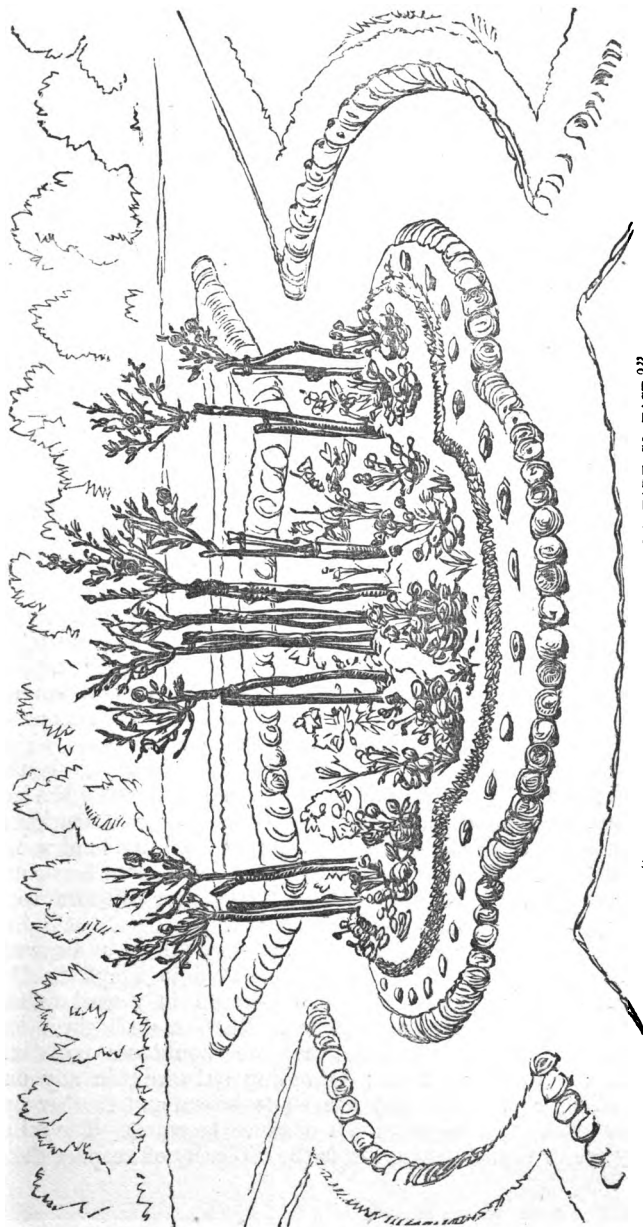
CHAPTER XIV.

ROSES IN TOWN GARDENS.

IT might be prudent sometimes to advise the owner of a town garden to give up all idea of growing roses, but prudence is of no avail when we have to deal with those whose mainspring of action is sentiment. Roses are required in every garden, no matter what may be its size, soil, situation, or surroundings, and a book about roses must provide for all possible circumstances, and in some way or other accommodate every taste. As we are bound to keep facts in view at every step, we may as well at once face the fact of first importance at starting. The closer the proximity of a garden to a large smoky town, the greater is the probability that it will not nicely accommodate roses. Many of our large old English towns that are innocent of factories, and but rarely disturbed with the dust of roadway traffic, have good gardens and grand roses in their very midst ; but wherever there is a large consumption of coal, the atmosphere is rendered unfavourable to roses, and those who desire to grow roses must encounter a few difficulties, and after all be content with flowers some degrees inferior to such as, with similar means at command, might be produced in a purer air. But the town amateur may take courage if he will at the same time take care. The writer of this cultivated roses for fifteen years in a garden three-and-a-half miles distant as the crow flies, northward, from St. Paul's Cathedral, and with such success that he frequently presented them at public exhibitions and obtained the approbation of experienced judges, and not unseldom carried off the highest honours of the show. It was in order to impress upon amateurs the possibilities of rose growing in the suburbs of London that we put upon the table at the first great rose show held in the Crystal Palace, the collection of Moss, Perpetual, and China roses which attracted the attention, and secured the admiration, of the Rev. S. Reynolds

Hole, first of rose amateurs, and most discriminating critic of the qualities of roses. Thirteen years after the event we met Mr. Hole (not for the first time, happily), and his first remark was in reference to those "London roses," and his agreeable recollections of them as bright examples of town gardening. Let the town amateur take courage then, but let him also take care, for to buy roses haphazard and plant them anyhow will not answer in the furnishing of a town garden.

THE FORM.—The reader who doats on standards will perhaps think enough has been said in their dispraise in these pages, but it remains yet to warn the townsman that they are the very worst of roses for his purpose. In the suburbs of all our great towns we see a certain number of entrance courts made hideous with starving standard roses that have neither shape nor make at any time, that are leafless and scraggy half the year, and during the other half show a few unhealthy leaves, amid which, for a very brief period, a few flowers appear that are scarcely equal in form, substance, and colour, to those imitation roses that are sculptured out of beet roots and sold in the streets of London city in the depth of winter at one penny each. We have made a study of a fine entrance court that lies in the way of our daily rambles. It should constitute a beautiful approach to a respectable mansion, but the owner has evidently made up his mind to make it characteristic by a display of rose trees, and it must be confessed he has succeeded, though it may be doubted if his success is of the kind he intended, or, as we should say, to his heart's content. The beds were in the first instance raised above the level, and then were thickly planted with nice young trees that were at once severally pruned and presented thenceforward a most wobegone appearance. At the end of three years we made a sketch of the principal bed, and here it is, faithful to the fact, and we should hope it will serve as a warning to every townsman who comes to this book for help in the enjoyment of the sweetest of flowers. Now if those beds had not been raised above the level, had they been deeply dug and well manured, and planted with a well-considered selection of Perpetuals, Bourbons, and Noisettes on their own roots, they would in all probability have quickly acquired a free and healthy growth, covering the ground with buxom leafage, and during a considerable portion of the summer and autumn presented a glorious glow of welcome flowers, and not one



"HOW CHANCE THE ROSES THERE DO FADE SO FAST?"

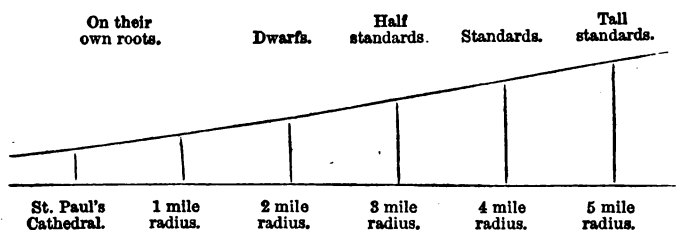
rigid stick visible to mar the contour of the mass. As a matter of taste, roses are not appropriate to entrance courts, for they are leafless at a time when the place should have a rich and bright appearance with thriving evergreens that look a welcome to the invited guest. But we will not discuss the question of taste; our business is to advise on the growing of roses, leaving the amateur to gratify every whim, provided only he will do justice to the Queen of Flowers.

It should be understood then at starting, that the brier needs a good soil and a somewhat pure air, and the town amateur should not begin with brier roses, but obtain experience first with bushes, and then extend his operations and adopt standards cautiously. It is an interesting fact that the taller the standard the more favourable should be the conditions for its sustenance. Hence the nearer the town we pitch our tent, the shorter must be the standards if we will have them, and only in the open country and in a good garden should the tallest standards be planted.

If we observe how the dog-rose grows wild, we shall find the stoutest and most lusty growths along the hedgerows of a clay country, where their roots get plenty of moisture, and very often some stronger stuff from the byre and the manure heap, but where there is never any stagnant wet. A bit of real clay, that has been laid up all the winter to pulverize, is, when enriched with manure, the best possible soil in which to plant briars for budding, and also all flowering standard roses, which are the same briars in another stage of cultivation. If the smoke of towns does harm to the rose, a bad state of the soil does much more harm to the root, and the more attention is paid to this basis of operations, the more will the field widen for the growth of roses in towns. But the closer we come to the centre of a town, the more must we incline to short roses, and at last give up standards altogether.

The state of the case may be represented by a diagram, and suburban gardeners are recommended to adapt the diagram to their own geographical position in regard to the towns to which they are attached. Suppose we begin in the centre of the city of London, there we should use none but roses on their own roots; travelling outwards, in any one direction, we may at last use short briars, and further on, taller briars, and so on as the distance increases. The taller they are in towns, the greater is the difficulty of keeping them

alive. In the suburbs of London we should consider it safe to plant half standards at three miles from the Post Office ; and at one mile more, full standards ; and at five miles they might be of any height desired, to form weeping roses on lawns and back rows of broad banks. Here then is the diagram, which may be considered as representing the gradation of heights, on a radius of five miles from St. Paul's Cathedral.



Whatever exceptions may be made to such a rule must still be in accordance with the principle it involves. It may happen that in the three-mile radius the air and soil offer the best conditions for roses of every size, shape, and variety ; and such is almost the case at Stoke Newington ; and it may be that even at the four-mile radius, the proximity of a floorcloth factory or a hungry soil compel the amateur to consider himself on equal terms with those who live two or three miles nearer to the great town.

THE SITUATION.—The first step towards securing a nice rose garden in the vicinity of a town is to select the most sunny and breezy spot the garden affords. To plant on borders near walls or live fences is about as unwise as to plant on grass. If the garden opens at the rear on meadow land, or is otherwise countryfied and breezy, there is the spot for roses. But, generally speaking, the very centre of the garden is the most favoured site, and there it may be convenient to lay out a compartment for roses, and so screen it from the windows, that its poverty of appearance in winter shall not obtrude on the daily vision, while in the summer, when all is bright and fair, a walk to the rose garden will afford a delicious preparation for breakfast—more delicious, perhaps, than the breakfast itself !

THE SOIL.—It must be borne in mind that the soil of a town garden is not usually the best that can be found for roses. The soil, indeed, is not impoverished by the smoke that pollutes the air, or by the houses that interrupt the free play of the sunshine. But just you watch the series of transformations which have for their object to change the country into the town, and you will perceive that every separate stage of the process is like a veto against roses. In the first change the farmers and gardeners, knowing the land will soon be let or sold, do their utmost to take the heart out of it. The fences are patched anyhow, the land is hard cropped without manure, and whatever is likely to exhaust it, is sure to be adopted in the routine of operations. Then the builders come, and their first business is to strip off the top crust and sell it as turf or garden mould, and at one fell swoop the very best of the soil is carted away. Next, the houses are run up, and the townsman florist locates himself on a soil that has lost its heart; and if he fails in rose growing he is apt to blame the smoke alone, when perhaps it is but a small offender. In any case, the intending planter must consider if the soil is good enough for his purpose, and in spite of all that has happened, it may be. If it will grow a first-rate cauliflower, if trees and shrubs generally make a lusty growth upon it, he is pretty safe, and fair digging and manuring will suffice to prepare a foundation for rosarian successes. But if the soil is not good it must be improved by carting in the top turfy spit from a fat meadow, and incorporating with it a fourth or fifth part of good stable manure, and with this mixture the rose bed should be made; the bad stuff being taken out to make room for it. To raise the rose bed above the level, is, as a rule, bad practice, for towns are so effectually drained that raised beds are too dry for roses, rhododendrons, lilies, and other plants that thrive best when their roots are cool and moist, and it will be found that where elm trees continue healthy and vigorous, roses generally do well, because the moisture that suits the big trees is congenial to the little ones.

PLANTING.—The next business will be to plant the roses, and the best general advice that can be given in regard to selecting them will comprise two major points. In the first place select in the several classes that are available for the purpose those varieties that are described as *vigorous* growers. As to these classes we shall have something to say presently. If you

cannot discover whether any particular variety is of vigorous habit, see if it is entered in the list of "garden roses," for that list comprises none but vigorous kinds that are noted for abundant flowering. The next point of importance is, that the plants should consist for the most part of own-root or Manetti roses ; a few standards may be planted with them, and they should be such good growing and free-flowering sorts as *Lord Nelson*, *Sir Joseph Paxton*, *Jules Margottin*, *Anna Alexieff*, and *General Jacqueminot*. If the selected plants are to be taken from the open ground, have them home and plant them during fine weather in October. Plant the Manettis six inches deep, to encourage roots from the scar where the graft was inserted, plant the briers no deeper than suffices to fairly cover the roots, and when the planting is finished tread the ground over, to make it thoroughly firm, unless rain comes on before the work is finished, in which case finish the planting if you can and defer the treading until the ground is pretty dry and does not become a mere paste under your feet. It is well to advise, moreover, that you plant rather thickly, for a thin rose bed has a poor appearance ; and finally, that you prune all of them rather close back as soon as the planting is finished. If the plants are purchased in pots in spring you must not be in haste to plant, because having in all probability been kept in pits all the winter, they will be rather tender, and should a sharp frost occur soon after they are planted they may suffer considerably. Wait for dull mild weather ; then plant them carefully and quickly ; tread the ground firm, and if rain does not quickly come give them plentiful supplies of water.

As this chapter may be read by some who are in haste to begin rose growing, and have had but little experience in gardening, a word of caution as to the meaning of the direction "plant firm" may be useful. It is only by seeing how things are done in various places that it is possible to know how to advise amateurs for their advantage. We call to mind a notable case of failure which will illustrate the importance of the remark just made on treading of the roots of newly-planted roses. A gentleman fond of roses sent for us to have a look at a plantation which had cost him a large sum of money only to give him vexation, and make the best piece of ground in his garden a specimen of utter failure. He had purchased yellow loam of admirable quality at about a

guinea a load, in order to give the roses such a soil as is recommended in the books; he had purchased manure in quantity at six shillings a load; and lastly, paid seven pounds per hundred for a fine lot of dwarf Hybrid Perpetuals. When we saw them in the month of June they looked so miserable we could scarcely avoid laughing; but preserving a suitable gravity we looked about for leaves and flowers. A few of both were to be seen, but the leaves were more black than green; the few flowers were small, ragged, thin, and ridiculous. The plants had a starved look, and the general tone of the whole piece was that of a mass of blackish-green, scrubby sticks, much like the vegetation one sees on the banks of the Tyne where coal-smoke influences the shrubs in a way which makes one regret it does not quite kill them. The owner had planted them with his own hands; he had pruned them admirably, taking his method from the books; and he had prepared for them a soil in which roses might have been grown to take first prizes at any flower show. But, alas! he had planted them so loose, that by taking a stem in the hand and pulling gently the entire bush came out as easily as would happen in drawing a radish immediately after rain. What was to be done? The remedy was simple enough. We began with one bed, trod it all over backwards and forwards, made the soil as firm as a pavement, and recommended that all the rest be served in the same way, and then the beds to have about two inches of half-rotten dung spread all over them. We saw no more of them that season, but in the June following called in to have a look at the roses, and they were one mass of healthy green foliage and thumping flowers. Thus, you see, we may do right in all things but one, and the omission of that one, or the doing of that one wrong, may make a wreck of our enterprise.

MANAGEMENT.—To keep the roses going, it will be well to supply them with water, root and branch, during dry weather in the summer months. But this must be done properly. Many town gardeners waste their energies in dribbling water about where it is not wanted, and in such small quantities that it does more harm than good. The way to water roses is to soak the ground well morning and night for two or three days in succession, and then give no more for about ten days, when the heavy watering should be repeated. If fresh house sewage can be obtained, they may have almost any quantity from

the end of April to the end of July, after which they should have no more for the season. If it is strong it must be diluted, and independent altogether of possible poisoning of the plants by strong sewage, it will be found that very weak sewage is the most beneficial—in fact, strong liquid manure of any kind is not good for any kind of plant, however gross a feeder it may naturally be. The overhead watering should be accomplished by means of a good barrel engine. The water should be soft and clean ; therefore, although ditch and pond will be the best for the roots, it will not do for washing the foliage, for it injures the trees by leaving on the leaves a muddy deposit. The engine should be filled in the morning and left standing in the sun all day. In the evening it should be taken to the roses and made to deliver upon them a fine shower. If there is any green-fly upon them, the water must be directed with force to the under sides of the leaves, with a view to drift the fly away into the indefinable limbo. For other matters of management, other chapters must be consulted.

THE SELECTION OF SORTS is a matter of the utmost importance. The rosarian who is determined to go forward, and has no fear of difficulties, will patiently test many kinds of roses, and make his garden, so far, a trial ground. He will be surprised as he goes on (provided only that he goes on prudently and does everything well), at the vast range of selection that is open to the townsman, for in truth, we may grow in a satisfactory manner an immense number of good roses, in the near neighbourhood of the permanent smoke cloud, if the spot is somewhat open so as to enjoy the best air and sunshine possible in the district, and the soil is prepared in a sensible manner. But our business is to provide the safest possible path for the beginner, and we advise him in the first place to secure some of the more vigorous of the SUMMER ROSES, and pay less attention than is usually given to the AUTUMNAL ROSES.

Amongst the summer roses, the Provence, Damask, and Gallica classes will supply several splendid varieties that endure smoke patiently, and thrive under the partial deprivation of sunshine, which must be their lot in a town garden. Such varieties as *Common Cabbage*, which, in beauty, is not surpassed by any rose in the world ; *Maiden's Blush*, *Common Damask*, *Luxembourg*, *La Ville de Bruxelles*, *Ohl*, and *Tran-*

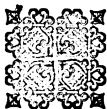
son Goubault, will be sure to present a fair crop of their handsome flowers, and although they only flower once, it is better to ensure that one display than trust over much to the sorts that should flower twice or thrice, but, when put to the town test, refuse perhaps to flower at all. Among the Hybrid China and Bourbon are many good summer roses that may be recommended, such as *Blairii* (Nos. 1 and 2), *Brennus*, *Charles Lawson*, *Madame Plantier*, *Paul Ricaut*, *Vivid*, *Chenedole*, and *Fulgens*.

The best of the Autumnal roses are the Perpetuals, Bourbons, and Noisettes. From these select the sorts that are described as *growing vigorously and flowering freely* in preference to those that are in high repute as show flowers. Happily there are several first-rate show varieties available, such as *Princess Mary of Cambridge*, *Victor Verdier*, *General Jacqueminot*, *General Washington*, *Madame Cambaceres*, *Madame Domage*, *Madlle. Haiman*, and *Senateur Vaisse*. But beware of that distinct, showy dark-leaved race represented by *Geant des Batailles*, *Lord Raglan*, and *Lord Clyde*, for they will become unsightly with mildew before the summer is half gone, and create vexation instead of pleasure. A few of the Noisettes, such as *Aimée Vibert*, *Ophirie*, and *Fellenberg* will succeed; but the shy-flowering varieties are useless. From the Teas you may select with safety the grand old *Gloire de Dijon*, for it is one of the best of town roses, and *Devoniensis* may succeed; but for any other Teas you must wait, and when you plant them take all the responsibility on yourself. Not many Chinas will be available, but you may expect to do well with *Fabvier* and *Cramoisie*, which are gorgeously coloured and as nearly alike as two peas. Finally, plant in far-separated parts of the garden a few of the *Common China*, and be guided by it in your future movements. Let it have good soil and a sunny situation, and so long as it thrives, you may speculate rather freely in all kinds of roses. If common China does not thrive you may be sure that your range of selection is restricted. It is the first of all roses to give warning of danger, and for that reason we have designated it the Pilot Rose.

The townsman who loves roses must not depend solely on the open ground for supplies of flowers. He must take advantage of the better climate that may be secured by the employment of glass, and by good greenhouse culture secure

a plentiful bloom of the lovely Teas that the cruel conditions outside forbid him to grow in the open ground. With wool netting, to exclude the blacks, a good border on a bed of large rubble, and syringe and engine frequently at work, a rose garden of the most delightful kind may be enjoyed in the very heart of a great city. All that is wanted from the actual locality is sunshine ; everything else may be brought to the spot, and even the common air may be in some degree filtered and purified. But the house must be built in a full flood of light, and if that cannot be obtained in the back garden, we may ensure it by going on the roof. The work needs only to be done well, and then, within hearing of Bow bells, there may be enjoyed a genuine rose garden, over the entrance of which might be appropriately inscribed the lines of Mrs. Hemans :—

“How much of memory dwells amidst thy bloom,
Rose ! ever wearing beauty for thy dower ;
The bridal day, the festival, the tomb,
Thou hast thy part in each thou stateliest flower.
Therefore with thy sweet breath come floating by
A thousand images of love and grief ;
Dreams filled with tokens of mortality,
Deep thoughts of all things beautiful and brief.
Not such thy spells o'er those that hail'd thee first,
In the clear light of Eden's golden day,
There, thy rich leaves to crimson glory burst,
Linked with no dim remembrance of decay.”



CHAPTER XV.

THE FAIRY ROSE.

THE "Fairy" or "Lawrence" roses are so highly esteemed as pot plants, that they are grown for the flower markets in thousands, and always meet with a ready sale, even at times when the general trade in flowers is otherwise at a standstill. As thousands are sold, there must be thousands of purchasers, and we may reasonably guess that nine-tenths of the whole number try to keep their roses, and hope to see them flower again. To how many of them all is it vouchsafed to have a full gratification of the honourable desire? We can only answer the question vaguely, as another guess, that not more than one per cent. of the whole number sees the flowers of the fairy rose a second time, that is to say, in another and distinct season of bloom. These roses are easy enough to grow, if you go the right way about it, and in that respect, they agree with all other known plants. But they differ from many other subjects of our care in this respect, that if we make a mistake at any point, or give way to any degree of carelessness, the fairy roses vanish, or if they deign to live, it is for the entertainment of aphids, acarus, or mildew; perhaps, for all three; and while entertaining these new and disreputable acquaintances, they ignore the feelings of their vexed possessor. In any and every case, the management of pot roses by amateurs is a troublesome business; but there are no pot roses so in haste to cause disappointment as these, and when the disappointment comes, it is bitter, because between the fairy rose, as we see it in perfection in the flower market, and the fairy rose, as we may see it two months afterwards, the difference is as great as any one could desire, who would treat dramatically the aspirations and experiences of the amateur rosarian. The writer has tasted the sorrows and joys that accompany the management of these fickle fairies, having had to learn through failure



TEA ROSE. PERLE DE LYON.

the secrets of success, and having at last succeeded so far as to beat the market growers in all save time. For whereas, they could carry nice plants into market in the very early days of spring, the writer could carry far nicer plants into the dwelling house to adorn the window or the dinner table, about a fortnight later than the time at which the first batch were sent to Covent Garden. And as to the date of flowering, the market grower always has the advantage, for he can devote a house, or many houses to the stock of one plant, while the amateur, who does not want hundreds or thousands of the same thing, must fill a house with mixtures, and take his chance, and then, as a matter of course, however complete his practice and routine may be, the market grower is bound to beat him in something or other. Beware then, ye amateurs of roses, and be content to have your Lawrencianas in flower a fortnight later than those that are first sent to market; and if you are a month later you need not fret, because the later the better for you, for the more you force fairy roses, the more surely do you open the door wide for all the plagues of Egypt, and some other plagues that Egypt never heard of, to walk in and sprinkle the ashes of death on your garland of flowers.

It may be said with the most perfect truth, that the man who can grow a fuchsia well, can do perfect justice to the fairy rose. If fuchsias and Lawrence roses were grown in the same house, they would agree perfectly, and would either prosper or perish together, according as the treatment might be right or wrong. Let it be borne in mind, therefore, that the Lawrence roses are of that tender hardy class of plants, that require the aid of glass, except in the extreme southern and western counties, and when under glass, require the coolest possible treatment—that is to say, coolest in the thermometric, and not the moral sense of the word.

All experienced cultivators are well aware that whenever a plant is grown in a temperature higher than that of its native country, or whenever its season of development is artificially hastened (as when a plant that should flower in summer, is forced to flower in winter or spring), it becomes the ready prey of numerous animal and vegetable parasites. Now it is particularly worthy of remark that the fairy roses are quite healthy and hearty—in their own peculiar way, indeed, *robust*—so long as we grow them in the cool house, and make no

M

attempt to force them whatever. They may be wintered nicely with geraniums, just as fuchsias are; they may be allowed to shake off their leaves, and be kept for awhile under the stage, just as fuchsias are treated in some gardens. But they like warmth, moisture, light, and are in haste to grow in the early spring if a little encouraged, precisely as fuchsias are. In this point they differ, that whereas some amount of shade does not hurt fuchsias; but the fairy roses must have the fullest amount of light possible, or their delicate wiry shoots become drawn and weak, and the flowers fall over, instead of holding their heads up jauntily on footstalks of sufficient toughness and substance.

To propagate these roses, is so easy a matter, that an experienced hand will make a plant of every inch of wood that can be cut, and as a good plant consists of a dense mass of shoots, ten good plants should soon, if required, give birth to a thousand. There are two seasons in the year for taking cuttings. The best cuttings are those obtained from plants that have been forced, and have made a free and kindly growth afterwards. The plants that have flowered under cool treatment will supply an abundance of cuttings in the early days of September. In any case, young, half-ripe wood must be selected, and the cuttings must be put into a mixture of equal parts of powdery peat and silver sand, and be kept on a gentle bottom heat with plenty of atmospheric moisture until rooted, and then should be potted off singly, in thumb pots, in any good sandy compost, and should be kept warm and moist, until the pots are full of roots, and should then be shifted into sixties, and allowed to cool down gently, and take a good rest preparatory to being shifted into forty-eights for flowering.

The soil for these plants should in any case be light, and the pots carefully drained; but as to the quality of the soil otherwise they are not at all particular. They will grow superbly in good fibry peat with plenty of sand, and they will do quite as well in mellow turfy loam with sufficient sharp grit; but the strong soil that more vigorous habited roses require is really not suited for them, for if the soil be too heavy, or the pots not well drained, they soon become covered with mildew, and to restore them to health will be a difficult task. A light fuchsia compost will suit them admirably, and they should be shaken out every year when the

new growth is completed, and be wholly or partly repotted, when a goodly proportion of thoroughly rotten hot-bed manure may be added to promote a vigorous bloom. As a definite prescription is always valued (by such as have confidence in the prescriber), we propose, as a compost for fairy roses, two parts loam from top spit of pasture, the fibre quite broken down; and one part each of siliceous grit, rotten hot-bed manure, and clean leaf mould. This will be light and rich, and they will grow like radishes in it if they have fair play as respects air, light, and moisture.

To force fairy roses is easy enough for those who have had some experience in forcing in a general way. They do well with *Deutzia gracilis*, *Astible Japonica*, and of course with Tea and China roses in the forcing-house, the principal point being to force *gently*, for if you drive them, off go the buds; and as the buds fall, mildew or fly, or red spider will appear, and then, where are you? Let echo answer, "Where are you?" Extreme of heat, extreme of cold, extreme of moisture, extreme of dryness—any extreme, even of wind and sunshine, is ruin to fairy roses. They must be treated like healthy people who are slightly "hipped." They must not have overmuch food or drink, or air or sunshine, and yet if they are kept unduly close, Death will soon mark them for his own. Nevertheless, though so fastidious, I would sooner trust a ploughman with a lot of fairy roses than the starving, prohibiting Dr. Sangrado, whose ambition it was to say "No," and who gratified his ambition with a vengeance. These coy plants may be better coaxed with a "Yes" than a "No," for if they ask for water and you say "No," they will instantly shake off all their leaves and refuse to be comforted.

Now the reader will begin to ask what is to be done with the plagues these plants are subject to. The proper answer is, that if the case is a bad one, nothing should be done to cure, and that killing is the procedure for the prudent. We must confess we have seen several sudden outbreaks of aphid in our stock of fairy roses, but rarely saw red spider or mildew. We disposed of the aphid in an off-hand way, by simply providing a pail full of pure water from the kitchen boiler, and cooling it down to 150° Fah., and then we turned the plants head downwards into it and gave them a brisk rinsing. The spider and the mildew we have completely cured by the Aphid wash of the City Soap Company, which we found pe-

culiarly efficacious when mixed with a little clay, and used quite hot. But when so used, it must be carefully syringed off with pure water, at a temperature of 100° , for the clay chokes the pores, and the sulphur in the composition injures the delicate green bark if kept on more than one night, or if applied early in the day, it should be washed off two hours afterwards.

The books say that these roses may be planted out, but those who obtain them honestly are advised to be a little cautious as to planting out. Several times we have planted out surplus stock of well-hardened thrifty plants in May, but the next winter killed them so completely that there were no marks of there whereabouts left. In the Scilly Islands, and in some sheltered nooks on the coasts of Devon and Somerset,

“Where spices breathe and fragrant roses smile,”

they may do very well, if planted out on a dry, light, nourishing soil; but even in such favoured spots we should prefer to grow them as pot plants, for their exquisite beauty can only be fully appreciated when they are seen close under the eye, and pot culture ensures the early bloom that is so great a charm with such delicately habited plants as these.



CHAPTER XVI.

YELLOW ROSES.

THE "Golden Rose" of history is the most renowned of emblematic flowers, and yet by not a few amongst many who are at once ambitious, and simple minded, would be less valued than the golden rose of the garden. The rosarian cherishes an ideal estimate of the golden rose that he has grown or will grow, for to him it is a sort of fiction founded on fact; he has never seen, and mayhap never will see the perfect flower that constantly delights his inward eye, and is the most welcome fantasy of his dreaming.

There are more yellow flowers than of any other colour, and yet we prize yellow roses above all other roses, and take considerable care to insure their plentiful production and perfect development. The *blue* rose is at present a "fancy flower," a thing of the imagination, hoped for, and indeed expected by rosarians who take superficial views of the workings of nature, but by such as have observed with intelligent eyes, it is generally agreed that there is no reasonable prospect of the production of a blue rose at any time or anywhere except in the dream of an enthusiast. But the yellow rose is one of the most agreeable of the many realities of the rose garden. It is not the Noisette or the Tea-scented groups only that furnish us with yellow flowers, but several other families dispute with these regal roses for favour with those who love "cups of gold," and hence a chapter on yellow roses must range rather wide in the selection of examples. Nor is the subject insusceptible of illustration from dreams and fancies, for there are those who hope for yellow moss roses and yellow perpetuals, and not a few who believe that such things really exist. As a matter of fact, our lively friends of the flowery persuasion on the other side of the channel, have actually

announced yellow moss and perpetual roses as ready for confiding purchasers, but it has not been our good fortune to see any of them in flower, and for the present we do not believe in their existence. That, hypothetically, they are to be desired, there can be no question. A yellow moss rose of good quality would startle civilized society out of its accustomed propriety, and a yellow perpetual to flower all the summer long in the open ground, and make sheets of golden bloom in the proper rose season in the early days of July, would be the greatest possible "acquisition" to the rose garden that has ever been accomplished, not excluding the introduction of the honourable, puissant, redoubtable, heroic, and all-conquering Maréchal Niel. Now, to speak for ourselves, we do not expect ever to see a blue rose, and we have not yet seen a yellow moss or a yellow perpetual. But in the possibility of the last two we fully believe, and therefore feel bound to urge on all those choice spirits whose delight it is to raise floral novelties, the propriety of labouring with a view to secure such desirable additions to the rose catalogue. It may contribute towards this happy end, and at the same time promote the enjoyment of yellow roses everywhere, if we now offer a few observations on the several classes of yellow roses, and the cultivation they severally require.

MACARTNEY.—In the Macartney section there are several varieties that show more or less of the coveted colour. *Alba odorata* has white flowers, which are yellowish in the centre. *Hardy's Rose*, the result of a cross between *R. involucrata* and *R. berberidifolia*, has flowers of a pale yellow, spotted with purple at the base. *Rosa Hardy* was raised by M. Hardy, of the Jardin de Luxembourg, in the year 1836. In all its characteristics it is very distinct, but alas, it has no constitution, and on the cold clay soil of Stoke Newington, all it does after being carefully planted is to dwindle away. But we have done well with it planted in a peat border, in a sunny lean-to house in a very damp position, and attribute our success to the free ventilation afforded during summer, and the very small amount of artificial heat employed in winter to keep frost out. The amateur intending to breed from this plant would do well to plant it in peat in a brick pit, as it would then be completely under command, and as nearly as possible in the condition of a rose in the open ground, but enjoying perfect shelter. As a matter of policy, however, we

should advise the amateur to go anywhere for pollen rather than to Hardy's Rose.

SCOTCH.—In this section occur several yellow roses, and they all produce seed abundantly. The growth is dwarf, excessively spiny, and they multiply rapidly by suckers, which rise up some distance from the parent plant. The flowers are always more or less double, very small, globular like little balls, and agreeably fragrant. The varieties are only to be met with in old gardens, as they are all quite out of fashion. We should select, with a view to possible uses in hybridizing, the following :—*Josephus*, a good plant, with light yellow flowers; *Mary Stewart*, lemon yellow; *Mrs. Hay*, tawny straw colour; *True Yellow*, pale yellow in bud, creamy white when expended. They should all be grown as bushes, for they make miserable standards. Any soil will suit them, but they require pure air. A hedge of *True Yellow* would make a pretty feature in some out-of-the-way spot, but would not be good enough for the rosarium proper. They are strictly summer roses.

SULPHUREA is a relation of the Scotch rose. It has pale green glaucous leaves, erect shoots, which are covered with long prickles. The *Double Yellow* has flowers of large size, very double, and a lovely yellow colour. It is, unfortunately, without odour. It is an old, very old rose, with an incorrigible habit of bursting just when it should open beautifully. Parkinson, writing in 1629, says: it is "so thicke and double, that very often it breaketh out on one side or another, and but few of them abiding whole and faire in our country, and the time of flowering being subject to much raine and showers; many, therefore, doe either plant it against a wall, or other ways defend it by covering." Occasionally, when warm rains have been followed by bright sun, this rose will open properly, and is then extremely beautiful, but to "catch it" thus happily is a rare event. Every observant cultivator who knows the variety has "made an effort" to overcome its eccentricities, but with small success. A rather light but rich soil and exposure to the north, appear to be favourable conditions, and without a question it thrives better on its own roots than on any kind of stock on which it has ever been tried. An important element in the production of perfect flowers is *age*, for the older the tree the better; therefore the *Double Yellow* may teach the rosarian patience.

The tree should be pruned immediately after flowering ; not indeed to shorten, but to thin out the shoots so as to secure the most perfect ripening of those that are left. The *Yellow Pompon* is a small variety of Sulphurea, the flowers are globular, quite double, and of a bright yellow colour. All the roses of this section flower in the early summer.

ALBA.—In this group occur a few which may be regarded as having a yellow tendency. They are *Belle Aurora*, white, tinged with yellow ; *Blanche Belgique*, white, tinted sulphur ; *Buff*, pale buff, small ; *Madame Legras*, creamy white. They are hardy, good growers, require no particular treatment, and thrive well on any kind of free stock as well as on their own roots. They flower in summer only.

AUSTRIAN BRIER.—This is a section consisting almost wholly of yellow roses. They are all closely related to our old friend of the cottage-garden, the sweet brier, or Eglantine of English writers, and the one called *Globe Yellow* is the Eglantine of the French. The following are beautiful and useful yellow roses :—*Bicolor*, single, copper and yellow ; *Copper*, single, reddish copper ; *Double Yellow*, or *Williams's*, raised by Mr. Williams, of Pitmaston, double bright yellow ; *Globe Yellow*, a very thrifty variety, producing globular flowers of a bright lemon colour ; *Harrisoni*, double, cupped, golden yellow, habit of the tree pendulous, flowering early and soon over ; *Italian Yellow*, pale straw colour ; *Persian Yellow*, large double, globular, rich deep yellow, a grand rose of its class ; *Single Yellow*, or *Capuchin Brier*, large and single, cupped, bright, primrose yellow. *Harrisoni* and *Persian Yellow* make fine standards, and flower freely, but their beauty is soon past. They should be pruned close every alternate year, and as the process prunes the flowers out, they will of course, under such treatment, flower only once in two years. It is possible, by cutting out a certain quantity of wood every year, to insure an annual bloom, but it is better practice to flower them every other year, for then a rich display is secured instead of a poor display annually. They are summer-flowering roses, and produce an abundance of seed.

TEA-SCENTED.—These might be described as a group of golden roses, save that amongst them are several veritable Teas that have rosy, creamy, and blush-tinted flowers. If we stop to praise them, we shall be led away and possibly lost ; therefore, we will ask Horatius to dedicate the golden rose

with the lily and the ivy to festivity and love, and then give attention to practical matters—

“Neu desint epulis rosæ,
Neu vivax apium, neu breve lilium.
Omnes in Damalin putres
Deponent oculos; nec Damalis novo
Divelletur adultero,
Lascivis hederis ambitiosior.”

Carm. i. 36, 15.

The yellow Teas differ in habit and merit considerably, but all except one are somewhat tender, and to enjoy them thoroughly, it is necessary to plant them out in a span-roofed house, or to grow them in pots with the aid of a good brick pit. The free-growing sorts make fine standards, and are unequalled as wall-roses, for they run to a great height quickly, and flower abundantly if the points of the shoots are pinched out as soon as the rods have attained their full length. The weak growers make neat bushes if regularly pruned back to promote a sufficient growth of side-shoots, and they are most prodigal of their flowers in autumn if out of doors, but when grown under glass they flower delightfully in the month of May, and again in August. The English brier is the best stock for all the strong-growing sorts, and of all roses in the world that thrive on the brier, no matter what the height of the stem or the aspect, or even the relative purity of the air, *Gloire de Dijon* surpasses them in hardiness and general usefulness. Indeed, we place *Maréchal Niel*, which we class as a *Noisette*, second in rank of relative merit to this most thrifty of the Teas, and although for the present no one will agree with us, the time will come when all experienced rosarians will declare the judgment to be correct. The weak growers do well on the *Manetti* brier, and all do well on their own roots, and their own are the best roots they can have when they are planted in open borders; because as they are likely to be killed to the ground-line in a severe winter, they will renew themselves from the roots, and recover in one season, but if on foster roots they never recover—it is the stock alone that survives. As the weak growers make good pot plants, and the strong growers run fast and soon cover a wall, a profitable way of appropriating a house to yellow roses is to have a border for the runners, and train them up the wall, while the pot plants are placed on a stage in the usual way. In a house

with a broad roof, a succession of festoons may be obtained by planting strong growing yellow Teas to clothe the rafters. This would be a good way of insuring a free bloom on some of the shy Noisettes, the display in a good season fitting to Hamlet's expression, a "majestical roof fretted with golden fire."

It will be of some service to the amateur, perhaps, if we run through the list of yellow Teas in alphabetical order, and make such remarks on the more important of them as appear necessary. *Adrienne Christophle*, a strong grower, confusedly coloured yellow, copper, and peach, but sometimes comes pure yellow; first-rate. *Canary*, a lovely rose, shamefully thrust out of trade catalogues of late; a weak grower, the flowers perfect when in bud, but loose when open, pale yellow. *Comte Taverna*, pale yellow, fine form; a strong grower, first-rate. *Comtesse de Brossard*, a strong grower, the flowers rather thin, the colour pale clear yellow. *Coquette de Lyon*, a strong grower, the flowers small, double, canary yellow; good. *Devoniensis*, well known for its sumptuous flowers, creamy white with tinge of buff or yellow. *Diana Vernon*, large, globular, pale lemon-yellow. *Enfant de Lyon*, a weak grower, flowers large, pale yellow; makes a fine pot-plant. *Eliza Sauvage*, a moderate grower, very tender in constitution, pale yellow with orange centre; makes a lovely pot-plant, but for the open wall or border surpassed by *Comte Taverna*. *Gloire de Dijon*, too well known to need a character, but it is proper to observe that as it has a fine constitution and seeds freely, it is well adapted to breed from, and probably the pollen of *Maréchal Niel* is the best that can be found to fertilize it. *Isabella Sprunt*, a strong grower, a fine habit, a most valuable pot-rose, forces well, flowers well formed, colour sulphur-yellow. *Jean Pernet*, a vigorous grower, clear yellow, good. *La Boule d'Or*, a strong grower, well adapted for a rafter or pillar in the rose-house, as it flowers freely; in colour it is not as its name implies, a ball or bowl of gold, for it is neither compact in make nor of a good yellow colour; but it flowers most profusely, and we must pronounce it a good variety to grow but not good enough to breed from. *Louise de Savoie*, a strong grower, fine in form and substance, clear, pale yellow, and deliciously scented; makes a fine pot-plant. *Mlle. Cecile Berthod*, a strong grower, the flowers large and full, colour sulphur-

yellow, a superb pot-rose, and one of the best of its class for forcing. *Mdlle. Adele Jougant*, a moderate grower, tender, makes a nice bush, flowers thin, lemon-yellow. *Madame Ducher*, a strong grower, flowers large and handsome, clear yellow, first-rate for pots or pillars. *Madame Falcot* is a famous rose, more double and deeper in the apricot tint than Safrano, which acquires a tint of buff when full out; neither of them is yellow enough to rank among the yellow roses. *Madame Lartay* is shaded with salmon, the flower loose, the plant very tender. *Madame William* is like Eliza Sauvage, and as good, the plant very dwarf, and the most tender of Tea roses: it is, moreover, reluctant to flower, but the few flowers it offers are beautiful in form, pale yellow with orange centre; for a pollen rose this would probably be found of service to the raiser of new varieties. *Narcisse* is a moderate grower, quite hardy at Stoke Newington, makes a good standard, the flowers large, rather thin, delicate pale yellow; good. *Niphotos* is a strong grower and a capital type for a seeding rose; the flowers are large, full, and vary from pure white to pale yellow. *Perle de Lyon* is a strong grower with handsome dark foliage, hardier than most, the flowers are large, full, and stout, varying in colour from apricot to deep yellow; a glorious golden rose. *Reine des Pays Bas* is a pillar or wall rose, as it makes long rods that flower profusely, and it may be grown as a standard or bush; the flowers are moderately full, the colour pale sulphur. *Perfection de Montplaisir* is a weak grower, forces well; the flowers come in plenty, they are smallish, the form good, colour canary-yellow. *Semele* is a fine variety, too tender for the open ground; the flowers are dashed with yellow, with shades of salmon and buff. *Vicomtesse de Cazes* is another of the famous Teas, a moderate grower, but strong enough to make a good standard, somewhat hardy, and one of the freest to flower in all this family; the flowers are large, full of stout petals, the colour coppery-yellow shading to gold-yellow at the edges.

NOISETTE.—This section is rich in yellow roses, and the best of them are hardier than the Teas. Among the yellow Noisettes there are a few which will thrive anywhere, and require very little care to insure an abundant bloom; but these are not the kinds that the rosarian becomes excited about.

We come near to true yellow in *Solfaterre*, which has

always been a favourite. The colour is pale sulphur, the flowers are large and very double, and the tree grows with great vigour. Very like it is *Lamarque*, a most beautiful sulphur-yellow rose, and one of the finest wall-roses known. *Triomphe de Rennes*, a true Noisette, with large canary-coloured flowers, is hardier than the two foregoing, and bears the smoke of towns tolerably well. At Stoke Newington it grows and blooms superbly as a standard, exposed to all the winds of heaven. *Celine Forestier* is another true Noisette, of vigorous habit, as hardy as the last, and very adaptable to any situation where a rose of any kind will grow. The flowers are pale yellow, pure and bright, large and full, and are freely produced if the tree is scarcely at all pruned. The best way to manage it is to cut back a few of the longest rods every spring, leaving always about half the shoots to flower, and the other half to grow. In a good season, the shoots that were pruned will flower in the autumn as well as those left unpruned. It bears smoke well, and grows freely on any free stock. The best place for it is on a west wall, where the strong shoots can be trained in their full length, or as a standard on a brier; for when grown as a bush it is too straggling unless much pinched in, and that is apt to endanger the flowering, though the stubby side-shoots which follow are sure to flower the next season if left alone. *Mdlle. Aristide* is another vigorous grower, with a decided trace of the Tea rose in its constitution. This requires a warm wall, and grows best when worked on the Banksian rose, but it will do on the brier. The flowers are pale yellow, with salmon centre, and if the tree is well fed, the flowers are large and full.

Among the strong growers we have now only four left: of these we shall here dispose of three, and reserve the fourth for a separate paragraph. *Cloth of Gold* is truly magnificent when brought to perfection; the colour pure gold yellow, the form globular, very large and double. *Isabella Gray* differs from it in being a shade deeper in colour towards the centre. When well grown it opens freely, but is rather deficient in form; there is a sort of squareness about it which the experienced eye detects at a glance. But very often this rose does not open well, and it is very shy of blooming under all ordinary circumstances. The last of the three is *Jane Hardy*, flower deep gold-yellow, small, but pretty; the habit that of a climber, and too tender to be used as a standard; though

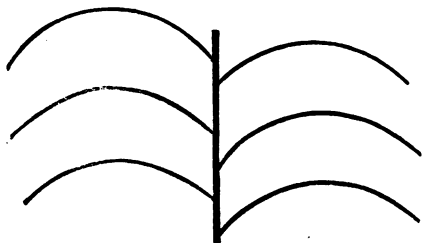
in a warm climate, as that of Jersey for example, where Cloth of Gold thrives amazingly, it would make superb weeping standards, that would look like tents of gold tissue when in full bloom.

Of the yellow roses enumerated above, there are four that call for special consideration as to the best means of securing a plentiful and an *annual* crop of flowers. These are Cloth of Gold, Solfaterre, Isabella Gray, and Jane Hardy. We omit from this consideration Maréchal Niel, because it never fails to flower freely when planted in a suitable position. It is a fortunate thing that if we hit upon the right method of managing any one of these, that same method will apply to all the rest.

These delicately-constituted roses require a deep, rich, dry, warm soil. If wall and border could both be moderately heated, without covering with glass, there is no doubt these varieties would surpass everything, in the way of roses, ever seen. To do so would be quite possible, but the majority of cultivators, and, for our own part, we cast our lot with the majority as having common sense on its side, prefer to attempt their culture with the heat of the sun alone. It will be understood from these remarks, that to plant any of these roses in a bleak position on undrained soil, or in poor, sour, pasty stuff, would be the height of folly. They might live, but they would neither grow nor bloom. A south wall has been pronounced by more than one authority as unfit for them; but this is a mistake. The fact is, the place cannot be too hot; but as tender plants on south walls are in more danger in winter than plants of the same kind on north walls, the cultivator must make amends by protecting, and there is nothing better for the purpose than a stout canvass fixed to a lath above the top line of the trees, and drawn down at night. The use of protection is perhaps of more importance in spring than winter; for, having secured a hot position and a thorough good border, the next step towards success is to promote *an early and vigorous growth*. Early formation of strong wood allows of its more perfect ripening by summer-heat; and if the wood be well ripened, there will be plenty of bloom to a certainty. There are two more points for the cultivator to fix in his memory—namely, to use the knife as little as possible, and to exercise patience, for these roses must be well established, and have had some years of growth, before they

acquire a blooming condition. We must now speak of them separately, as to their individual needs and peculiarities.

Cloth of Gold will do as well on a brier as any rose known. It will also do well on the Banksian. It will also do for a time on Celine and Manetti stocks, but unless it makes roots of its own, and so becomes independent of the stock, it may perish just as it acquires the proper age to be in perfection. It is important to bud on *established stocks*, because, when the junction has been effected, the rose makes that quick and early growth which is so essential to success; whereas, if the stock be only half rooted, the first shoots of the rose rise weak, and never afterwards acquire their proper vigour. As the shoots rise, train them their full length upright till June, then unnailed them, and nail in again in the form of half circles, or as near that figure as possible, as in the subjoined diagram.



parts of the shoots. As soon as the bloom is over, cut half the shoots back to plump buds at the base, train the shoots from these buds upright, and bend as before. By this treatment the trees will bloom again in autumn.

It really does not matter what stock *Isabella Gray* is worked on; but it must have a warm and dry position. To promote the formation of spurs it is necessary to hasten the growth by giving abundance of water, alternating with liquid manure, early in the spring, and to train in all the wood its full length and cease watering about the middle of July. As soon as these shoots begin to ripen, there will probably appear a second growth of shoots from the base, and these shoots must be suppressed, otherwise the formation of spurs will be prevented. If the season is tolerably dry, and the tree has plenty of sun, it will at once throw out spurs and bloom freely. As soon as the side spurs begin to push, the critical moment is past, the tree will now devote its energies to the production of flowers

instead of new wood, and it may be assisted again with liquid manure. The next spring cut back a portion of these shoots, to induce a strong growth of new wood to go through the same process as the year before, and perchance on the shoots not pruned a few (or many) blooms will appear in May or June.

The first year that Isabella Gray was sent out, and when rose growers had no other subject to talk about, so thoroughly did it engross their attention, we purchased some plants of Messrs. E. G. Henderson, of St. John's Wood. They were in five-inch pots, worked on Boursault stocks, and consisted entirely of bloom spurs, the buds having been taken from ripe wood. There were some eight or ten wiry branches upon each, forming very compact little bushes. These little plants bloomed in the greenhouse in May, most beautifully, being completely covered with small but very perfect blossoms, of a rather pale gold colour, two or three shades paler indeed than the flowers usually come out of doors. When the bloom was over, they were cut back very close, and the pots were dropped into larger ones and rich soil rammed in between. They soon produced shoots which naturally broke into spurs, and bloomed tolerably well in the autumn. After blooming they were shaken out, repotted into seven-inch pots, and slightly shortened. In February they were put in a warm house and again bloomed as before; but the flowers were always pale, though they were always kept near the glass. In the winter of 1860 these plants were in an unheated structure, the pots were frozen through, and they perished in company with a good collection of camellias that shared the same fate. They had, however, taught us a lesson, and that we hand over to all whom it may concern.

It is quite certain that any rose grower, who has a warm wall and a dry border, may secure two crops of bloom every season from any of the yellow Noisette and Tea roses. Start them early, protect the young growth while spring frosts prevail; let the unpruned wood produce its flowers, then cut it back and get an autumn bloom from the shoots of the season; or treat the spurs as apple and pear spurs which continue fruitful, and instead of cutting out the wood which produced them, shorten in the spurs to one or two buds as soon as the first bloom is over, and so cause them to renew themselves and flower again the same season.

The yellow Noisettes of less vigorous habit, should, except in the most favoured localities, be grown under glass. *Le Pactole*, a fine yellow, requires a warm wall, but does better under glass, and makes a good pot-plant. *Cornelia Koch*, delicate straw colour, and *Smith's Yellow*, lemon-colour or yellowish straw, are good forcing roses, but of little use out of doors. The best way to manage them as pot-plants is to train them spirally. They should be on their own roots to make nice plants. *Clara Wendel*, fawn, with yellow centre; must be grown under glass. *Vitellina*, colours mixed as in *Jaune Desprez*, but occasionally the yellow predominates; a vigorous grower, and flowers well after a hot season.

Maréchal Niel, the most popular of the yellow roses, is occasionally classed in the trade catalogues with the Teas, but it is unquestionably a Noisette, and remarkably hardy. Throughout the southern and midland counties it can be grown out-of-doors in the greatest perfection, and with but small risk of its being cut off by the winter's frost. In the north it can also be grown moderately well in a warm position against a wall, but the chances are that about every third or fourth winter it will be cut down to the ground even with considerable protection. It is on record that in the neighbourhood of Derby it withstood the effects of the severe winter of 1866-67 without injury, but it is very certain that in Yorkshire it is killed with the thermometer considerably above zero. In sheltered nooks of such favoured spots as Worthing and Bonchurch, Isle of Wight, it will be found quite at home, and in the neighbourhood of London the shelter of a good wall is sufficient for it, provided the station is well drained.

Whether grown under glass or against a wall out-of-doors, the details of management will not be found to differ materially. At the commencement, strong plants on their own roots should be selected, as preferable to those on the brier or Manetti stock; but if there is any difficulty in securing them on their own roots, those worked on the brier should have the preference. We have budded it on *Gloire de Dijon*, the latter being a stout plant on the English brier, and it grew vigorously and flowered freely; the position being sheltered and suitable. Some rosarians act upon the belief that it is not well able to support itself on its own roots, whereas there is not another rose in cultivation that will do better on its own roots. As a proof of this, it is only

necessary to refer to the gigantic specimen in the nurseries of Messrs. Kelway and Son, at Langport, Somerset. This specimen covers the back wall and roof of a large orchard-house to a length of forty feet, and would in one season cover the whole of the roof, and run another forty feet if the space could be spared for it. In its third season, it produced upwards of one thousand flowers, besides furnishing sufficient cuttings for the propagation of five hundred plants for trade purposes. The large specimen in the nurseries of Mr. Harrison, at Darlington, which produced three thousand blooms in the year 1872, when it covered an area of nearly 650 superficial feet of the roof of the house in which it is planted, was worked upon the Manetti; but immediately it was turned out of the pot it pushed out roots of its own accord, and may be virtually considered on its "own roots." The vigorous constitution of the *Maréchal* is as much a matter for wonder as the fine form and rich colour of the flowers. We have measured a shoot made in one season, on a plant in Messrs. Veitch's nursery at Coombe Wood, and found it a trifle over 20 feet. This plant is on a short English brier stock, and is planted in a border next the wall of a lean-to rose-house.

The best way of cultivating *Maréchal Niel* under glass is to plant it in a border or large pot or box, and train it just under the rafters. The rose-house will be the most appropriate place for it, although it is entitled to rank high as a conservatory climber. Sound turfy loam and partly-decayed manure chopped up roughly, and incorporated together at the rate of three parts of the first to one of the second, forms as perfect a compost as can be prepared for it. A few bones broken up moderately will be of considerable service in maintaining the fertility and porosity of the soil. When it is necessary to use pots or boxes, let them be of a large size, for it will be difficult to repot the plants when trained to the roof; but when growing in large pots they may, with the assistance of annual top-dressings, be kept in a healthy condition for several years, more especially if encouraged to root through.

Rosarians differ somewhat in their opinions as to the manner in which the *Maréchal* should be pruned, and some go so far as to assert that it should be pruned in the most moderate manner only, whilst others contend that it may be pruned severely. It is an easy matter for any one practically acquainted with the matter to effect a reconciliation between the two

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extremes, for in the one case allusion is made to the long rods which healthy plants will produce, whilst in the other the lateral growth is referred to. In reality, this rose requires pruning in much the same manner as other vigorous-growing varieties, for the strong rods require to be simply shortened back to a moderate extent, whilst the lateral shoots must be cut back to the first or second bud ; and, in addition, all weak shoots must be entirely removed to prevent overcrowding. It must be understood that, if the long, vigorous shoots are pruned severely, other strong shoots will be produced ; whilst, on the other hand, if the tops are simply taken off, and the rods placed, as far as practicable, in a horizontal position, laterals bearing flowers will push from nearly every bud, and a grand display of colour be the result.



PAVILION DESIGNED TO OVERLOOK THE ROSE GARDEN.

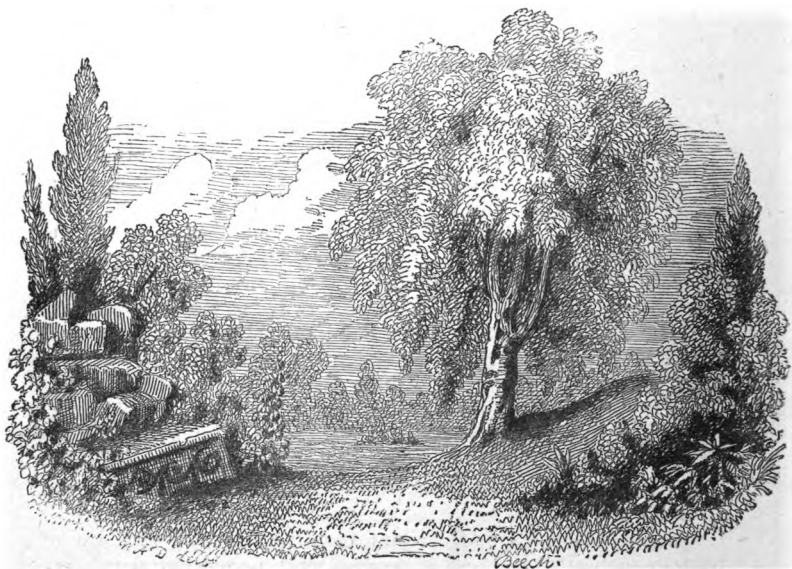
CHAPTER XVII.

HEDGEROW AND WILDERNESS ROSES.

Who can view the ripened rose, nor seek
To wear it ? Who can curiously behold
The smoothness and the sheen of beauty's cheek,
Nor feel the heart can never all grow old ?

THUS far we have considered the management and uses of the rose as a garden flower ; but it must be allowed to stray beyond the garden and take part in beautifying the wilder scenes that lie around, as on the boundaries of the play ground ; amongst the rough sunny rockeries ; on the mount where the rustic arbour commands a view of the country ; and in all the more open and dressy parts of the wilderness and orchard. But our way to the wilderness lies through the garden, and as we proceed we may be asked about certain hedges and partitions and bowers for which roses are required, and that may be better furnished with roses than with aught else. It will occur to the practical mind that the climbing roses afford the best of material for the kind of work we have in mind now ; but we must begin by saying that there are many varieties not classed as climbers that have higher claims than climbers proper for good positions in the garden. Of pillars and trellises and chains we have spoken already ; but of bowers and hedges we have as yet said nothing. In the case of a bower of the rustic sort, formed, perhaps, of larch poles and stout wire-work, we would not trust to roses alone, but have a mixture, to ensure a rich dense covering and a variety of effects. Suppose we plant our bower with *Gloire de Dijon* rose, *Jackman* clematis, and *Pyrus Japonica*. This combination comprises plants about equal in vigour and growth, very different in colour and character, yet of a nature to associate well in clothing a place intended for shade and shelter, and to render a bower beautiful from early spring until the actual commencement

of winter. In all garden scenes, garden roses should be planted, and hence for the hedges that enclose the rosery, and any dividing screens and partitions that are to consist of roses, the strong-growing Hybrid Perpetuals, Noisettes, and hardy Teas are to be preferred to the more rampant Multifloras and Sempervirens. A most effective hedge may be made by means of arched wires fixed to split larch poles, forming a continuous trellis three feet wide and four feet high, planted throughout with *Gloire de Rosomene*, with *Aimée Vibert* at



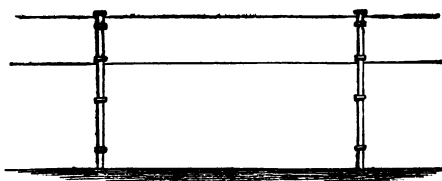
intervals of ten or twelve feet throughout. It is customary to plant standards in a garden hedge to break the line, and when all goes well, the arrangement is most effective. The standards should be tall enough to stand clear above the top line of the hedge, and should have large round heads, and produce an abundance of the most showy flowers. Such varieties as *Madame Domage* or *Jules Margottin* we should consider suitable, and in one length of hedge, or one set of hedges, all within view at once, we should allow only one

variety for standards, or at the very utmost, three varieties, and these should be planted so as to alternate regularly, and it would be better if they did not all flower at the same time. A capital hedge may be made without the standards, and in the case of enclosing a rosery, we should, as a matter of taste, certainly prefer the unbroken line of neatly-trained and nicely-rounded growth of dwarf roses of vigorous habit, of one sort only, or at the utmost, of three, without any standards.



Beautiful garden hedges may be made, without the aid of poles or wires, by selecting varieties of a somewhat stiff habit of growth, and perhaps, the *Common China* should have first consideration, for the soft quiet colour of its flowers would not interfere with the enjoyment of the choicer and richer qualities of the roses encompassed and sheltered by it, for the frame should, at least, not be grander than the picture. In the case of a hedge apart from the rosery, however, greater variety may be desirable, and a great feast may be derived from a mixture of many kinds of roses, provided they nearly agree in growth, for we must have a vigorous and leafy

growth, and abundance of bloom. The groups to select from for such a purpose are the Perpetuals, the Noisettes, and the Teas. The best possible plants are those on their own roots, for that disposes of the difficulty of suckers; but Manettis, planted fully six inches deep, will answer admirably if a sharp look out be kept for any growth that may arise from the stock. The ground should be deeply trenched and heavily manured, and the planting should be completed early in the autumn, unless the plants are to be turned out of pots, and then the best time to plant is April. If just a yard apart in a straight line they will have space enough to develop their characters fully; but a quicker effect may be insured by allowing only two feet space between them. They should be allowed to grow without a check, and have the help of abundance of water the first season. In the month of March following they should be cut down to within four inches of the ground, and again left to grow in their own way. It will be well now to provide stakes and wires of a rough, cheap kind, to give regularity to the front line of the hedge, and there can be nothing more effectual than such a fence as is



here represented. If manure can be spared, let the roots have a top dressing every autumn, and if it be possible to give water in abundance, let

them have liberal supplies during the months of May and June. The pruning, after the wires are furnished, will consist in moderately shortening the best rods, cutting out the weak ones, and cutting down to four inches from the ground all the plants that have failed to grow with a proper degree of vigour.

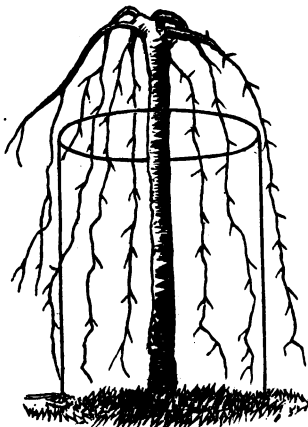
When we enter upon wilder scenes we shall require wilder roses, and must plant them in the *négligé* style. The casual pile of stones in the paddock, or the pseudo rockery that has been made up to screen the rubbish yard, may be vastly improved by a screen of such dense-growing Noisettes as *Ophiré* and *Miss Glegg*; and the ever-desirable *Sempervirens* *Félicité Perpétue* with its gracious corymbs of flesh white flowers. Another good use of such roses is to clothe the stems of de-

crepit trees and associate with ivy on ruins, and the more sunny parts of rockeries and sloping banks. The open glades in the pleasure ground and park may be agreeably enriched by clumps of *Scotch* roses, and for the same purpose, *Common Damask*, *Common Provence*, and the *Common Sweet Brier*, are eminently suitable. There is ample room for selection; but it would be bad taste to plant the finest exhibition varieties in the wilderness, and, generally speaking, a vigorous rustic growth is required to harmonize with the surroundings.

The snowy lily pressed with heavy rain,
Which fills her cup with showers up to the brink,
The weary stalk no longer can sustain
The head, but low beneath the burden sink.
Or should the virgin rose her leaves display,
And ope her bosom to the blaze of day,
Down drops her double ruff, and all her charms decay.

Languid and dying seems the purple flower,
Fainting through heat, low hangs her drooping head;
But if revived by a soft falling shower,
Again her lively beauties she doth spread,
And with new pride her silken leaves display;
And while the sun doth now more gently play,
Lays out her swelling bosom to the smiling day.

GILES FLETCHER.



WEeping ROSE TRAINED TO FORM A TENT.

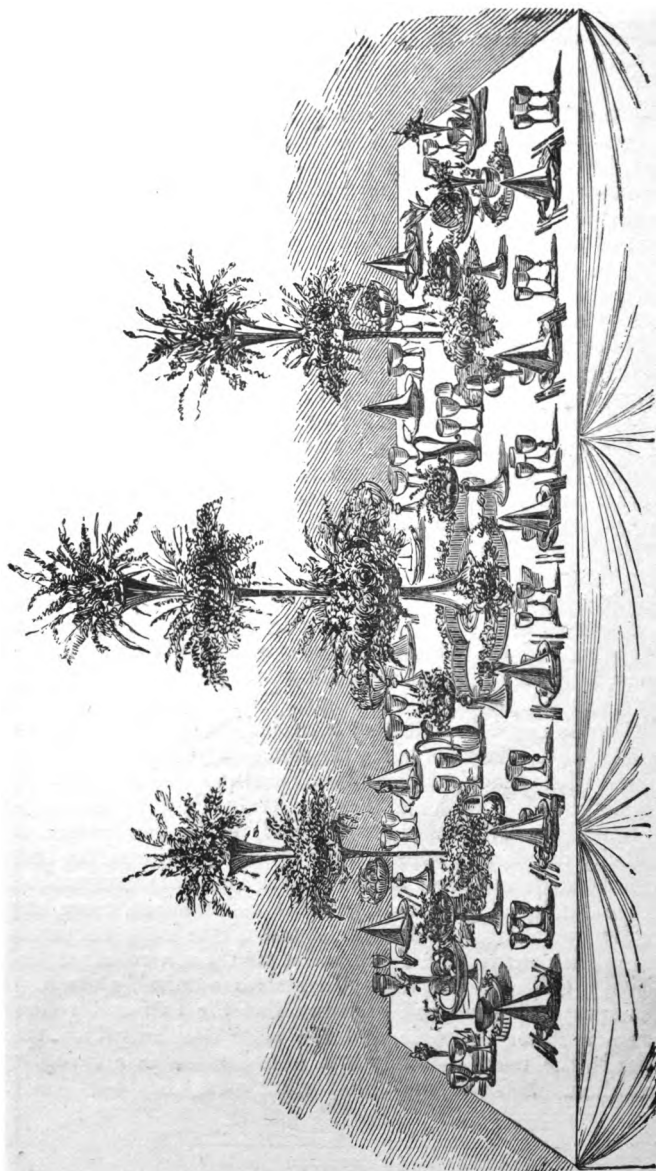
CHAPTER XVIII.

ROSES FOR DECORATIONS.

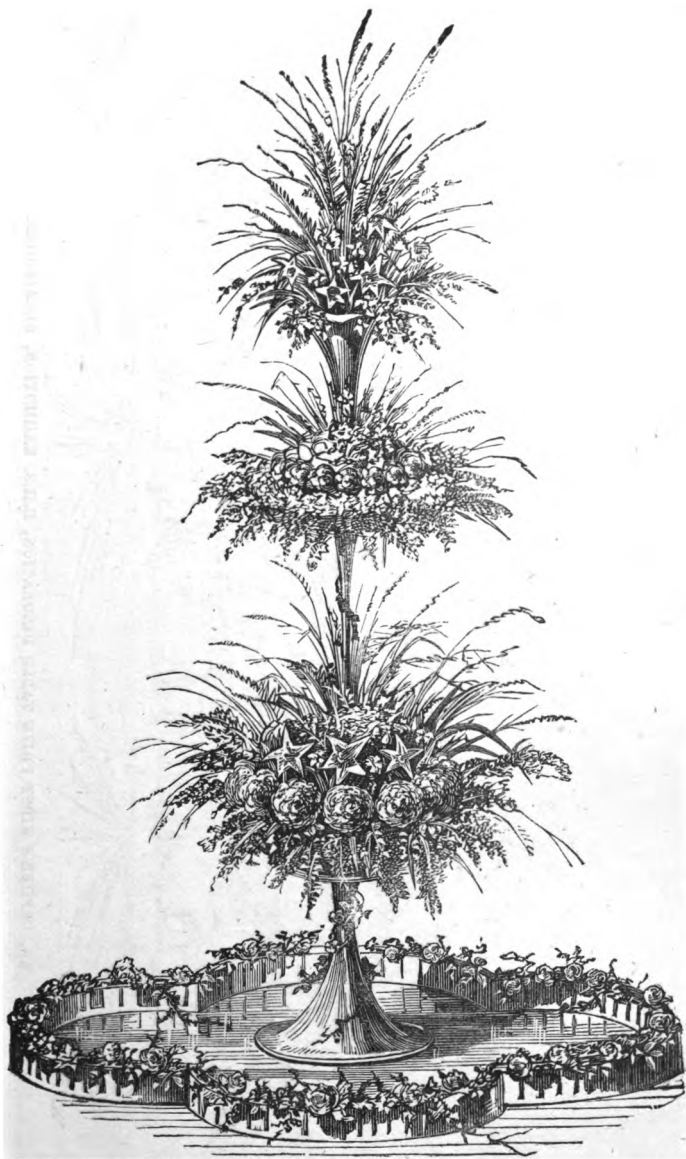
TO make the best use of roses in decorative works requires more than an ordinary degree of skill. If they are grouped with such garish flowers as scarlet geraniums, they are eclipsed completely, and the combination is a muddle of colouring, better calculated to give pain than pleasure to a cultivated eye. It is always necessary, before cutting roses for bouquets or epergnes, to consider what kind of materials they are to be associated with, for if not nicely matched in style and colour, they are either lost or become prominently objectionable. With orchids, eucharis, and stephanotis, they group well; but with asters and pelargoniums they are less happy. However, it must be admitted, as a matter of fact, that roses may be tastefully combined with any class of flowers, and it will depend on the skill of the artist to establish harmonies where none were apparent in the first instance. With ferns and grasses in sufficient plenty and variety at command, many combinations, otherwise incongruous, may be rendered acceptable, for these elegant neutral agents harmonize discordant elements, and bridge over a difficulty, if wisely employed to tone down and soften the more distinctive of the showy flowers. One great persuasion to the employment of roses in decorations is to be found in the fact that the sight of roses always affords delight. If they were heaped up with cabbages on the dinner table, the guests would say, "We do not care about the cabbages (in that way you know), but, oh! the roses." If you were to send a very bad set of decorations to the flower show, taking care, however, to put some good roses in with other flowers, your friends would be sure to say, "Those roses ought to have won the prize for you—they were, indeed, *lovely* roses." The sentiment in favour of the flowers is a great point gained, but we must not be led astray by it.

In any and every case it must be borne in mind that roses soon drop and fall to pieces if exposed to a hot dry air for any length of time, and whatever the state of the air, they must have their stems in water, or their freshness will soon be gone for ever. Hence it is not desirable to employ them in suspended wreaths, or in any way which renders it impossible to keep them in contact with moisture. Hence, for one who is unprovided with the little button-hole phial, a rose is the worst of all flowers for a button-hole decoration. When roses are to be employed in epergnes and vases, they must be cut with a sufficient length of stem to reach the water, and care must be taken in fitting up, that all the roses are safely fixed in this respect, or they will probably not last out the occasion for their use. Very many of the most valuable decoration flowers, such as *lapageria*, *stephanotis*, and orchids, and even *eucharis*, will retain their freshness not only for several hours, but for several days, without any aid whatever; and *pelargoniums*, which are sadly given to fall to pieces, will hold together nearly as well without water as with it, at least for twenty-four hours, in an atmosphere more than ordinarily hot and dry. But the roses must be sustained, or they will be worse than useless.

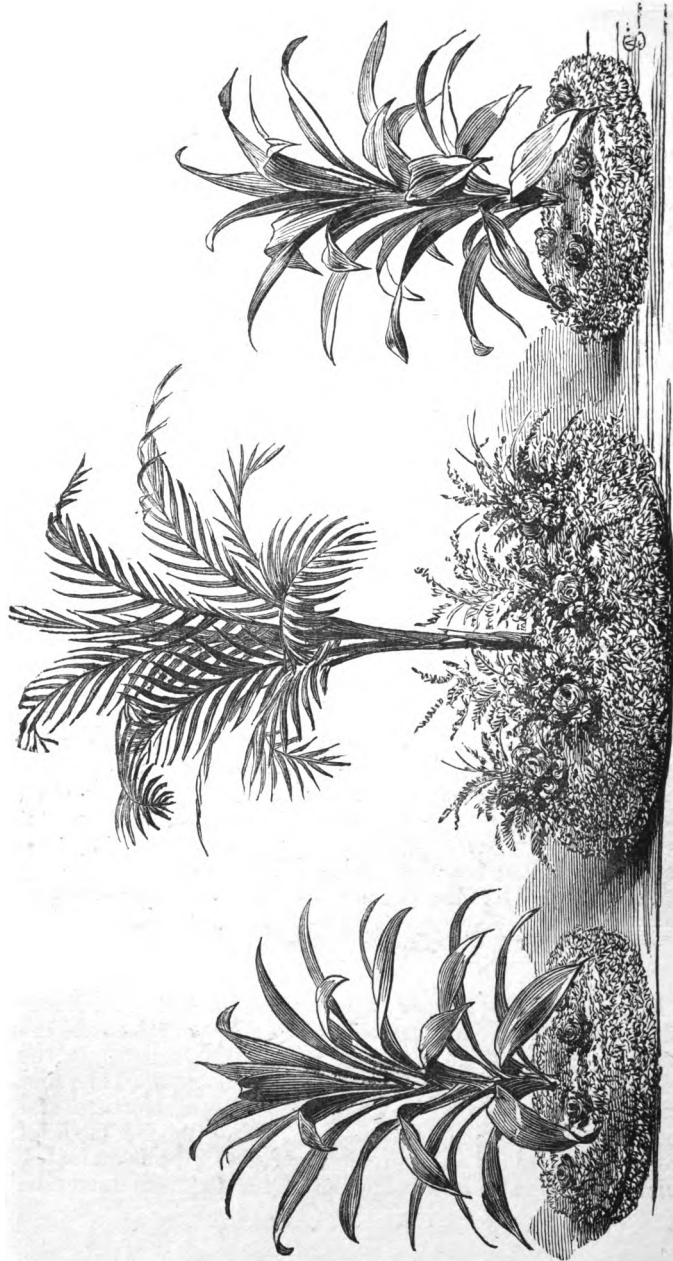
In dressing a dinner table with roses, it is important to suit the colouring to the kind of light under which the flowers are to be seen. If the table is dressed for a day-light meal, the utmost latitude of colouring is allowable, provided, of course, that a tasteful picture is the result. We may have in juxtaposition the exquisite flowers of *Marechal Niel* and *Louis XIV.*; the first, a great tassel of gold; the second, a purple plum, ready to burst with vinous juices, and such decisive colouring may be as tasteful as it is dashing. But, under gas light, such colouring would be altogether wrong, and, in fact, all roses of decidedly purple tint appear dirty by gas light, and the best yellow roses do not come to much under similar circumstances. All the shades of pure rose, carmine and crimson, come out grandly by gas light, and the brightest of the latter acquire a tone of rich scarlet. All the white and blush roses are exquisitely delicate, and show themselves admirably amongst light sprays of ferns and grasses. But the buff and yellow flowers are less desirable, and the more decidedly blue the flower is, the more certainly is it unfit for use in a gas-light decoration. Some of the unimportant roses, that our heroes



MR. CYPHER'S FIRST PRIZE TABLE DECORATION, R.H.S. EXHIBITION, BIRMINGHAM.



CENTRE-PIECE OF MR. CYPHER'S DECORATION.



DINNER-TABLE DECORATION, ADAPTED FOR BOUQUETS OF ROSES.

of the exhibition look down upon, such as Aimée Vibert, Common Provence, Fellenberg, Model of Perfection, and Cramoisie, are invaluable for decorative purposes, for, indeed, show roses, however perfect, are not always the most suitable.

When these needful precautions are fully observed, roses may be adapted to every style of floral decoration, from the exquisitely airy and refined method of Miss Hassard, of Norwood, to the more dashing and precise and hard style of Mr. Cypher, of Cheltenham; the two best artists in this department of the present day. For the wedding breakfast, a simple basket containing a few white roses tastefully grouped with white bouvardias, carmine gloxinias, and creamy gardenias, with a margin of fern fronds, may be more acceptable than the best epagnes and vases.



If it is intended to make a feature of roses on the dinner table, a rich, bold, daring style is to be preferred, as in the decoration figured at page 124 of *RUSTIC ADORNMENTS*, or the brilliant set of vases by Mr. Cypher, which obtained the first prize in the gas-light competition of the Royal Horticultural Society's exhibition at Birmingham. This precise mode of dressing, in which a formal arrangement predominates, quickly degenerates into vulgarism if the requisite talent be

lacking ; but it is wondrously effective when well done, and suits roses perfectly. In this group the centre piece had a base of silvered glass, with a margin of small flowers. The lowest tazza had circles of scarlet geranium, white eucharis, and crimson roses relieved with sprays of astilbe, stipa, milium, and maiden-hair. The middle tazza was dressed with pink heaths and white and crimson roses, with grasses and ferns to soften the outlines. The trumpet top was filled with astilbe and scarlet geraniums, with grasses, to give a feathery finish. The side vases were modified repetitions of the centre, the roses constituting characteristic furniture of the tazzas.

A simple, but most effective, mode of displaying roses on the dinner table may be accomplished by bedding them in living lycopodiums. The only way to do it well is to prepare for the purpose a set of zinc pans, in which the lycopodium is to be grown, so as to be ready on the instant of being required. In the centre of each pan an empty flower-pot is placed, and around it is a sufficient mass of sandy peat. The lycopodium is then planted, and the pans are taken care of in the fern-house, where they soon become richly clothed with the most elegant vegetation. The best plant for the purpose is the close-growing *Selaginella apus*, better known by its nursery name of *Lycopodium apoda*. The more common and rampant growing, *S. denticulata*, answers well, and there are several others available. When these receptacles are brought into requisition, the empty flower-pots are lifted out, and other pots, containing suitable plants, are inserted in the cavities ; and the roses, being placed in small tin tubes filled with water, are thrust into the soil, and the flowers are thus embedded in the most sumptuous cushions of green moss it is possible to obtain.

In preparing for an elaborate gas-light display, the safest course is to arrange all the important colouring by gas light, even if it has to be done twenty-four hours in advance. It is a question, of course, if at the end of the period the flowers will look as well as at the beginning. We can answer that if the work is well done, and the place in which the vases and other dressed receptacles are put until wanted, is somewhat dark, and damp, and still, they will keep perfectly, and even if a few flowers should look the worse for the keeping, it will be an easy matter at the last moment to remove them

and insert fresh-cut flowers of the same colours in their places. The great advantage is that complete success may be ensured, whereas there is great risk of a mistake, in fact, of an extensive muddle, when decorations are prepared by day light for the purpose of being displayed by artificial light. And here it will be well to recommend a mode of procedure we have adopted with complete success. In dressing vases and baskets some hours in advance of the time for the display, we have taken care to dip every flower and leaf and fern frond into clear tepid water, and then to gently beat the water out of it, so as to render every leaf and flower quite dry to all appearance. They are then grouped with the usual care to place the stems in contact with water, and put away in a cool store-room, and when brought out for use look as fresh and bright as when first fitted. The advantage of dipping them in tepid water is that a certain amount of moisture is retained by them even when it appears to have been beaten out. Even the dry-looking fronds of *adiantum* hold a little, and, generally speaking, flowers of all kinds hold a considerable quantity, lodged at the base of the petals, where, for a time at least, it tends more directly to keep them together, and with their proper freshness unimpaired, than the water they have access to by means of their stems.

It will happen sometimes that you wish to use roses that do not open kindly, or that you wish to revive quickly roses that have become somewhat faded. In this case, plunge the stems into water as hot as the hand can bear, and the wished-for result will soon follow. The magician who makes a flower expand before an audience cannot, with all his machinery and skill, surpass the trick of compelling a sullen rose to expand by this simple process. A little manipulating with finger and thumb will be another help in the case of hard half-opened rose buds in cold weather. We may find in the garden, in the dark dull days of November, large promising buds on *Souvenir de la Malmaison*, *Marechal Niel*, *Gloire de Dijon*, and other late-flowering roses. If we leave them, they will slowly decay and fall without expanding; but we may save them by such gentle means as are here indicated, and make thereby a garland of roses for fire-side enjoyment in the dearest days of the year. Thus the last rose of summer may live in substance for our bodily eyes as

truly as it lives in the poet's verses for the delight of our inward vision :—

'Tis the last rose of summer
Left blooming alone ;
All her lovely companions
Are faded and gone ;
No flower of her kindred,
No rose bud is nigh,
To reflect back her blushes,
Or give sigh for sigh.

Button-hole roses should not occupy much of our space, for there is really not much to be said about them. A half-blown moss rose is as perfect a button-hole flower as the world affords, and a bit of grass or fern can always be found to go with it if desired. Two or three flowers of the Austrian brier may be turned to account for the purpose, with a sprig of maiden-hair fern or a leaf of coleus or begonia—*chacun à son goût*. When a button-hole rose is presented, the case is, perhaps, different to the selection for one's own wearing. It may be proper then to consider the delightful floral philosophy of Perdita, or take advice of Alphonse Karr or Thomas Moore, or, better than all, to interpret the language of flowers by the language of the heart.

“—— Not words, for they
But half can tell love's feeling ;
Sweet flowers alone can say
What passion fears revealing.
A once bright rose's withered leaf,
A towering lily broken,—
Oh ! these may paint a grief
No words could e'er have spoken.”



CHAPTER XIX.

THE ENEMIES OF THE ROSE.

THE “consuming canker” that secretly hollows out the plump red buds, and leaves it as a shell to wither on the tree, may be regarded as the leader of a host of harpies that wage war against the welfare of the rose. The amateur will soon become familiar with them all, and happy will he be if they disturb not his rest, nor press upon him the cruel suggestion that rose growing is accompanied with greater plague than profit. The “grub,” the “fly,” the “mildew” are the captains of the army of enemies, and they lead a formidable host that have for allies the east wind, the summer drought, the winter frost, and the blundering human hand that will do wrong, and generally errs most gravely by attempting too much. In respect of the principal insect enemies of the rose, a golden rule may be offered for the comfort of the anxious amateur. *Ignore them!* Do full justice to the trees in respect of soil, planting, watering, etc., etc., and you will be but rarely troubled by these plagues, for they seek out first the starving roses; they want the trees that have been badly used; they swarm to the garden of the sluggard, where the “thorn and the thistle grow broader and higher;” and, generally speaking, are to be regarded as proofs that the trees are not thriving, and need some amendment at the root.

APHIS OR GREEN FLY is the most frequent and destructive enemy of the rose. Although to prevent this plague is too often a sheer impossibility, it is nevertheless true, that trees in full vigour of growth with abundant healthy leafage, are not so soon or so destructively attacked as those that are insufficiently nourished, or have sustained some serious check. It cannot be doubted, that many of the destructive visitations of “fly and grub” on roses, “American blight” on apple trees, and “black fly” on the young shoots of plum and cherry,

are prepared for by the frosts that usually come in the middle of May, when the sap is flowing freely, and development of leaf and wood is in full activity. The sudden check occasioned by unseasonable cold corrupts the juices, and renders them more palatable to the insects than the juices of an unchecked healthy tree would be, while, concurrently with the destruction that rapidly ensues on the settlement and multiplication of the insects, the growth of the tree is arrested, and it cannot quickly outgrow the destruction as a healthy tree will do, if we remove some portion of its leaves, or even cut off a considerable number of its branches. Therefore, we may properly begin to advise, that to prevent the spread of aphids, the trees should be by every possible means encouraged to grow vigorously. Late pruning and shelter afford protection from the May frosts that are the precursors of "blight" in the rose garden and the orchard, and liberal manuring and watering will carry the trees through many a trial with little harm, when, by the proper advance of the season, they are capable of appropriating considerable supplies of sustenance. There is considerable injury done to roses by endeavours to forestall their proper season. We may force the growth by various means; but a sharp frost on the 20th of May (or thereabouts), may be expected four years in ten, and when it occurs, all the previous new growth of the outdoor roses is destroyed, and the plants are also very seriously injured in general health. Hence, it is not prudent, as a rule, to begin to give water copiously and regularly, until the dangerous date is past, but from the 20th of May to the 20th of July, water should be given without stint, to ensure a fine bloom and a free growth, and make the fly afraid to touch them. On soils of a particularly dry nature, the rose beds should be somewhat below the level, and enclosed, if possible, by broad margins of turf cut from clay land, so as to prevent hasty departure of water, and economise every drop of the rainfall.

But the green fly will sometimes come in spite of these preventives. Now, good rosarian, take your choice of a thousand remedies that you can obtain, like patent medicines, at 13½d. per box or 2s. 9d. per bottle, or at a price per hog-head or ton, by enquiring of the manufacturers. It is with pleasure we confess that we have tried all the plant cleansing preparations that have been advertised during the past thirty

years, and found them equal to the professions of their promoters. Therefore, the novice who buys a preparation described as an infallible destroyer of green fly on roses, is likely enough to secure all he wants, and may at least give it a fair trial without trembling for the result. Having, in the capacity of advisers, to make choice amongst them, particular attention is now directed to three distinct preparations. *Fowler's Insecticide*, the *Aphis Wash* of the City Soap Company, and *Pooley's Tobacco Powder*, are the cheapest, safest, most potent, most cleanly, and most convenient, of the many preparations we have fairly tried for the eradication of fly from roses. As to the mode of applying them, the best advice we can give is follow the printed directions; but when you are told to dilute the preparations with water, take care to use *soft water as hot as the hand will bear*. This mode of procedure we have determined to be the best by repeated experiments, and many careful observations. The tobacco powder is the most simple remedy of all. It must be dredged on from a pepper box or flour dredger, covered with coarse muslin, when the trees are wet with dew, or when they have been wetted for the purpose with the garden engine. In any case of waging war against fly, the operator must bear in mind that they usually locate themselves on the tenderest part of the young shoots, and the *undersides* of the young leaves. On such parts apply the remedy with engine, syringe, or dredger; and as the preparation used costs money, catch as much of the waste as you can, and where the shoots are pliable and manageable, draw them down and dip them in your can of hot mixture, keeping them in it a few seconds, and the waste will be reduced to a minimum.

The immense value of pure water as an insecticide remains to be remarked upon. At present, very few cultivators believe in it; but the day will come when reason will prevail, and the preparations of the shops will be less sought after than the water engine and the pump. The regular and vigorous employment of the water engine amongst roses, will render lodgment of fly next to impossible. If the plague is confined to a few plants or a few shoots, the hand syringe may be sufficient to discharge a killing shower, and scatter the enemy to the devouring elements. But a terrific periodical drenching, aimed as much as possible at the undersides of the leaves, is the finest of all cures for a plague of aphids, because, while it

sends the fly to Jericho, or some other Ultima Thule, it refreshes the trees, heightens their vigour, and cleanses their breathing cuticles of the injurious deposits of the vermin, for it must be remembered, that while the fly sucks the vital juices of the plant, it spreads a gummy exudation on the tender parts it banquets on, and thus while bleeding suffocates, and is therefore more than a vampire.

In the choice of water, hot water is better than cold, and if any doubt as to what we mean by the term "hot," say 150° Fah., which is as hot as the hand can bear without pain. As hot water is better than cold, so soft water is better than hard, and diluted sewage best of all. Sewage is, in fact, a grand vermin killer, and if largely diluted, does no harm to the most delicate green leaf, while every drop that trickles to the roots, affords nourishment to strengthen the tree against its insect plagues.

The best home-made preparations that we can advise upon are two in number. We shall give first place, because of its complexity, to a decoction of quassia chips. To every gallon of water required measure out five ounces of quassia chips, and put the chips into the cold water. An hour afterwards, add to every gallon five ounces of soft soap, previously dissolved and well beaten up in a little hot water. Apply with a soft brush, taking care to brush *upwards*, and half an hour afterwards wash off the mixture and the dead vermin with hot water by means of a syringe. We have tried this preparation on several occasions, and obtained the most conflicting results; on one occasion it was almost useless, on the next it was a "perfect cure." The difference, doubtless, is to be found in the difference of quality of the quassia chips. At all events, there are two kinds in the market, the Surinam, which is the produce of *Quassia amara*, and the Jamaica, obtained from *Picræna excelsa*. The strongest bitter and most destructive to the lower forms of animal life, is the last named. All the gardening books recommend the employment of hot water in preparing infusions of quassia, and they are all wrong, for heat dissipates its killing properties and extracts the pure bitter only.

Now, we come to a cheaper remedy, which you will be puzzled with at first, but heartily believe in at last, if you are earnest in your business. A solution of mud, call it *de l'eau trouble* or mud-water, as thick or as thin as you can conveniently use,

(not in a syringe certainly, unless you can afford to buy a new syringe at every operation, but) to apply with some sort of mop or big brush to the undersides of the leaves, and those parts of the young stems on which the fly has, to use the gardener's language, "got a good holt." You need not wash it off unless it is convenient and agreeable to do so, for by contraction or expansion, as subsequent weather may determine, the muck will soon disappear, but you can do no harm by washing it off in the course of a few hours after the application. Pardon our prolixity, for the sake of the weaker brethren, when we say that it is as easy to suffocate as to poison aphids, and mud will effectuate the first as easily as tobacco will the second, and of the two mud is the cheapest!

But have we nothing to say about the potency of tobacco smoke? Ah, it is a fine subject! When roses under glass are much troubled with fly, smoke is a grand settler. But although the books say that by making a canvas or blanket tent, to cover a rose tree, you may easily employ fumigation out of doors, we say that to do so is waste of labour and tobacco and tent and time, for however perfect your means of imprisoning the smoke, the absorptive powers of the atmosphere will beat you; and why, because you love roses, should you be required to pay a guinea for every green fly you can kill by means of tobacco smoke out of doors? Dear friends, give it up. In the rose-house you may fumigate with tobacco and save your roses; but in the open ground there is only one thing likely to happen by adopting the smoke process, and that is, that you will waste the tobacco, and contribute, most unjustly to yourself, to the aggregate of our extravagant national revenue. Water and mud cost nothing; try these cheap and handy remedies first, and when they fail take something stronger.

On the subject of fumigating the rose-house, we must be sufficiently specific to put the inexperienced amateur in the right way. The best fumigator is one with a revolving fan, or a revolving cage, containing the tobacco, by means of which the smoke is blown out in a rapid, dense, killing cloud; but an effectual instrument may be extemporized by knocking a hole in the side of a large flower pot, and then having put some hot cinders and damp tobacco into it, the nozzle of a bellows is placed against the hole, and ignition promoted by gentle puffing. Mr. Gidney, of East Dereham, Norfolk, some years ago brought out an excellent fumigator, consisting of a

tin cylinder and a spirit lamp, the latter being employed to keep the tobacco burning, and the fumes being allowed to spread without help or interference until lamp and tobacco ceased to burn through exhaustion of materials. In any case, as already remarked, the strongest shag tobacco is the best possible material for fumigating. In respect of burning it, the best way is to ensure a good brisk ignition to begin with, but to take care that the tobacco does not break out into a flame, for that is at once wasteful of the tobacco and destructive to the plants. The usual time for fumigating is the evening, and preparatory to the operation the plants should be dry, and wet mats should be laid over the ventilators, and wherever else there may be crevices through which the smoke might escape. Early the next morning the syringe should be used freely, both to refresh the plants and cleanse from the dead vermin. In the course of a few days the operation should be repeated, for it rarely happens that one smoking is enough to settle a serious attack of fly.

Amongst the many patent fumigators, we give the preference to Drechsler's as the most effective in operation, and the most



serviceable in make and material. It consists of a large iron cylinder, fixed upon four legs, with a large spout for the egress of the smoke. The inside is fitted up with a stout wire basket to hold the fumigating material, and is made to revolve for the purpose of creating a current of air by means of bevel gear set in motion from the handle outside. In the bottom of the cylinder there is a large opening to admit air, and also to allow the

ashes to escape, therefore any clogging by means of the ashes is impossible. In setting it to work, twist a piece of dry

brown paper, and, after it is lighted, place it in the cage, and then fill with the tobacco or whatever else may be used. The material, put immediately over the burning paper, should be rather dry, to insure its igniting quickly, but the remaining portion must be used rather moister than with the flower-pot and bellows.

The handle should be turned gently during the time the cage is being filled, and when a sufficient quantity of material is put in close the lid, and by continuing to turn the handle steadily, dense volumes of cool smoke will be emitted, which will fill a large house in a few minutes. It is not necessary to go inside the house at all, as a half brick can be removed from the wall, and the end of the spout inserted in the opening. The occupants of the houses will be fumigated quite as effectually as they would be if the operator and machine were inside, an advantage which cannot be over-estimated, as being in a house filled with tobacco smoke for a quarter of an hour or more is certainly one of the most disagreeable experiences connected with the management of the garden.

Tobacco water is sometimes to be preferred, especially if only a few amongst many trees are infested with green fly. To prepare it procure the strongest shag tobacco, and pour boiling water on it at the rate of one gallon of water to two ounces of tobacco. When cold and clear, apply with the syringe or dip the shoots into it.

MILDEW is, without question, an evidence of debility, but it may be the accident of the season and not the fault of the cultivator. This plague usually follows close upon a time of drought, or of excessively hot days, followed by excessively cold nights, with a clear east wind and a sky wonderfully blue. The plant is debilitated by sudden and extreme and oft-repeated changes of temperature, and debilitation is the result. Here again, whatever restores the vigour of the plant makes an end of the mildew; but, as a matter of fact, when mildew has really obtained what gardeners call "a firm holt," it continues to the end of the season, as a chronic disease. The "aphis wash" is the best of nostrums for this affection, for it is highly charged with sulphur, and appears to nourish as well as cleanse the trees. We have recommended it to be used with hot water to eradicate fly: now we shall advise that it be used with hot water and

clay, or liquid mud, to prove a destroyer of mildew. Dry flour of sulphur dusted, as recommended for the application of tobacco powder, is at once the simplest, and, as a rule, the surest remedy, provided it is applied with care, to cover all the affected parts of leaves and bark while they are moist, and will hold the powder. Strange to say, dry dust, very dry dust, very fine dust, but dust alone, *pure et simple*, is a grand medicine for mildew if powdered on freely when the affected parts are damp, and in the interest of the operator (who may not desire to sneeze his head off), it should be applied on the windward side of the trees. An important matter for rosarians who are much troubled with mildew, is to eradicate the sorts on which it makes its first appearance, for these serve as nurseries to propagate the vile fungus for the destruction of the rose garden. Generally speaking, Geant des Batailles will be found the first and greatest offender, and after him perhaps Lord Clyde, and Lord Raglan. Burn these root and branch. Better fifty sorts and no plagues of Egypt, than five thousand and a broken heart!

GRUB is a collective term. It comprises "leaf rollers," "leaf miners," "canker," the "worm i' the bud," the "saw fly," the "Bedeguar" or cynips, the "leaf cutter," and a host of other comparatively high class insect depredators. If we could give directions for preventing or eradicating every one of these plagues we should be delighted, but in truth we can only, in a most general way, recommend hand-picking and leaf pinching.

As a matter of fact, these enemies of the rose rarely commit any serious mischief, and when they eat to the core only a few amongst many buds, they really do good by effecting a judicious thinning which the amateur might not have the courage to perform. Be not troubled about them, dear friend, but encourage the fly catchers and other small birds, for they are active hungry people, and have the most direct interest possible in keeping down the visible insects that ravage your rose garden. A shower of hot sewage now and then, and a dusting with tobacco powder, will render the roses unpalatable to these marauders, and by diligently hunting with the aid of a sharp eye and a quick hand, you will surely manage to mock these vagabonds, whose aim it is to rob you of your roses and your peace.

THE LITTLE FRIENDS OF THE ROSE

are by no means few in number, and should have brief mention here. The common sparrow is one of the most active and assiduous, for if left alone sparrows will banquet on green fly, and pick, pick, pick for leaf rollers, and nibblers, and excavators of all sorts. If you find your roses are becoming dreadfully clothed with aphis, and you really have no time to pult or poison them, you may adopt an efficacious method of enlisting the sparrows in your service. Two or three times a day, sprinkle a handful of grain or bread crumbs amongst the roses. The sparrows will soon appreciate your bounty, and having cleared the ground, will next proceed to clear the trees, taking the best care possible to repay your kindness. To render this plan a perfect success, you should keep the sparrows always on the look out, and never supplied very bountifully : so as far as possible, institute frequent sprinklings of infinitesimal bounties.

Make yourself acquainted with the larvæ of the ladybird, or *coccinella*, for these are greedy devourers of aphis, and touch no vegetable food whatever. The larvæ of the *syrphidæ*, again, are indefatigable destroyers of the same pest. Still more destructive to aphis, than either of the foregoing, are the larvæ of the lace-winged fly, *chrysopa perla*, a sort of ephemera, with golden eyes and green wings. This fly lays its eggs in a manner which causes them to appear like minute fungi, for every egg is on a transparent stalk, the latter being a kind of gluten deposited with the egg, and drawn out by the parent to elevate the egg out of the reach of danger. These stalked eggs may often be seen like microscopic fans fixed on the edges of rose leaves, and on the youngest shoots of the lilac. The ichneumon fly, *Ophion luteum*, is another friend of the rosarian, for its larvæ feed on caterpillars, and the more of them we can find amongst the roses the better.



CHAPTER XX.

SENDING ROSES BY RAIL AND POST.

Go, lovely rose !
Tell her that wastes her time on me,
That now she knows,
When I resemble her to thee
How sweet and fair she seems to be.

EVERY lover of flowers knows the importance of being enabled to send them safely on long journeys as messengers of love, or as replies to the possible question, "Does my old friend remember me?" It is our fortune or misfortune to receive parcels of plants and flowers daily, nine-tenths of which are so badly packed that we can make nothing of them, whether they are sent to be admired, named, judged, or to illustrate botanical problems. The remaining tenth or thereabouts are so wonderfully well packed that although days may have elapsed in the course of their transit, and the weather may have been suitable for hay-making, they come out of the package to all appearance as fresh as they went into it, and we marvel that while it is easy work to pack and post flowers for a long journey, very few amongst the many who make the endeavour succeed in the accomplishment of their heart's desire.

Flowers vary in their capabilities for travel. A spray of lapageria, bearing many of its noble thick-textured flowers, might travel in a chip box without any harm five hundred miles in the hottest weather. But a bunch of roses in the same kind of box would not hold together in a journey of fifty miles; indeed, they would shrivel and separate into their component parts before they reached the post office, if put into a chip or card-board box without moisture-holding packing on a hot summer day. The usual failing in the sending of flowers by post is packing them in dry cotton wool, which robs them of their moisture, and appears to be peculiarly adapted

to rob them also of all proper form and colour, for the very worst examples that come to our hands are those packed in this absorbent material in boxes that offer no resistance to the action of heat and dry air. A rose or a truss of scarlet geranium may be regarded as affording the best possible test of skill in packing and posting flowers, for from the instant of their being cut, they are in haste to fall to pieces, unless sustained by suitable surroundings.

In order to furnish the reader with some useful information, we will suppose we are called upon to send roses of all kinds and sizes, in all sorts of ways, by post or rail, or messenger, on long and short journeys, in all sorts of weather. We shall cut a few half-expanded flowers of Austrian briars, and having placed them between three or four freshly cut leaves of Irish ivy, shall put them in a common paper envelope, and seal them up and trust them to the post without fear. A certain amount of crushing they must be subjected to, but a twelve hour's journey will not destroy their character, for the ivy leaves will hold them firmly but softly, and impart to them moisture sufficient to sustain them for many hours. Large flowers, and especially such as are of succulent texture, cannot be transmitted in this way; it is indeed adapted only to such as are scarcely more substantial than a primrose or a buttercup.

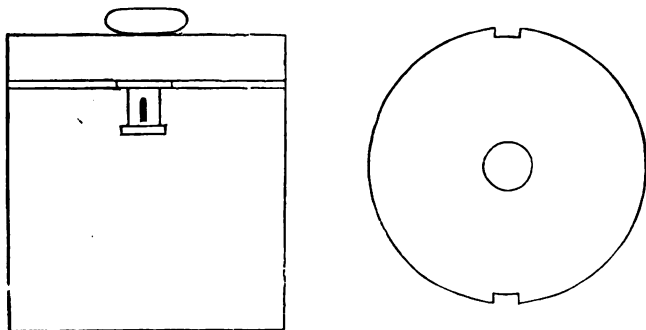
We will now gather a pretty little bunch of roses of fine quality, and adopt measures to despatch them safely a considerable distance. We shall bribe the doorkeeper of the household storeroom to find us an empty barrel of the kind that mustard, arrowroot, and other farinaceous comforts are usually packed in, both for sale and keeping. Having obtained the barrel, we shall bore a small hole in it with a bradawl at each end, and provide a length of string of a size that will pass the holes easily. The next business will be to tie the roses to the string as close together as possible, then pass one end of the string with the roses heads downwards, through the hole in the bottom of the barrel, and fill in carefully between the roses with damp moss, or fresh grass mowings, or fresh leaves of any kind, those of the privet being perhaps the most suitable. Finally draw the other end of the string through the lid, shut up the roses and tie the two ends of the string over the outside, and your flowers are prepared for a long journey. You might throw the box from hand to hand,

as the Duke of Queensbury's twenty-four cricketers contrived to send a cricket ball fifty miles within the space of an hour.

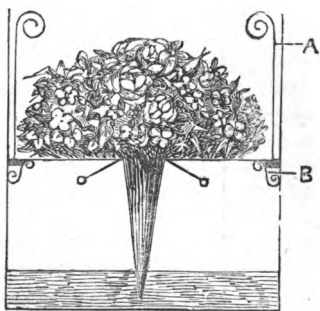
Larger undertakings must be conducted on the same principle; the flowers must be fixed in the first instance, and then carefully bedded in moss, grass mowings or green leaves; the grand thing is to *prevent evaporation*. If the flowers are actually wet, they will decay at a most rapid rate; if actually dry, they will surely fall to pieces. Having secured a wooden box of suitable size, it will be advisable to cut a few narrow laths to fit inside, and then proceed to pack the roses. You are not tied down to one particular mode of procedure, but will do well to take your first lesson in this wise. On the bottom of the box put a layer of fresh ivy or privet leaves, and then a layer of roses, which are to be covered with leaves very lightly. Now put one or two of the laths across to fix them firmly without pressure, and fix the laths in their places by means of brads driven from the outside. Proceed in this way until the box is filled, taking care of course to finish up with a layer of leaves on the top. When this package is nailed down, it may be tossed and kicked about in any way for days together, and the roses will come out almost as fresh as they went in. If a tin box is selected, a slight wooden cage should be made to fit it, and the flowers should be tied to the cage and be lightly bedded with leaves. If the weather be hot and the journey long, tie the flowers in bunches with fresh moss round the stems, and dip the cage and the flowers into water, and then pack with moss or leaves and despatch as soon as possible. It is better however to be content with the natural moisture of moss or leaves, than to resort to the use of water, for wet flowers long confined are almost sure to be more or less injured by decay of the outer petals. Tin foil, and oiled paper, and gutta percha paper, may be employed to advantage in packing flowers with a view to arrest evaporation, but fresh moss or privet leaves will generally suffice as preservatives, and will be rendered the more effectual, if large cabbage leaves were laid above and below the packing, so that they will not come into contact with the flowers.

From such rough and ready means of packing roses, we may turn to the properly constructed bouquet carrier, which will require more careful description, and the help of figures. We begin then with a tin box, round or square, ten inches high, and eight inches wide, as in the subjoined figures. That the

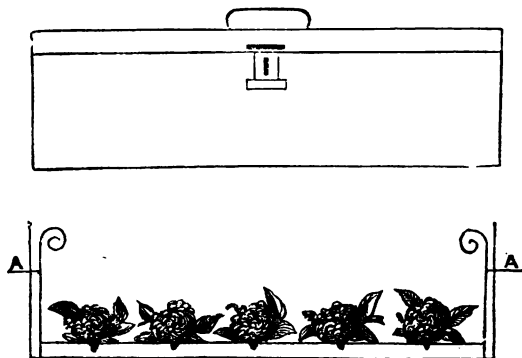
lid should fit closely and lock safely are matters of evident necessity; the lid is to be perforated with six small holes close to the handle. There must be prepared a tin tray to fit the inside, as in the second figure, which of course is adapted for a circular box. In the centre of this tray is an aperture



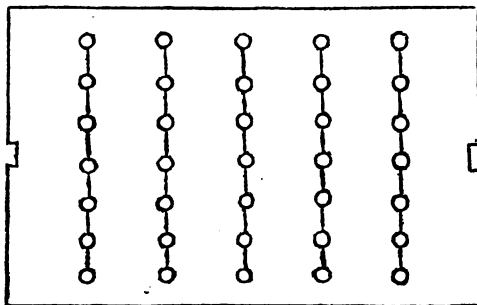
through which the stem of the bouquet is passed; the purpose of the tray is to keep the bouquet steady. The tray is fitted with two upright pieces of tin one inch wide soldered on the rim, and long enough to press against the lid when the tray is in its place, as at A in the next figure, two brackets are soldered to the sides of the box, as at B. The bouquet is then fixed to the tray by means of two pins underneath. The tray is then lowered to rest on the brackets, and the result is such an arrangement as the sectional sketch indicates. The figure shows the bouquet standing in water, but a few handfuls of fresh grass mowings will suffice if the weather is cool, and the box is likely to arrive at its destination in the course of a few hours. A very slight alteration of the arrangements will make a first-rate fruit or sandwich box of this, and by taking out the tray it might be made to carry a small outfit of apparel for a pleasure tour.



The next practice will be to provide a box to carry a number of separate cut flowers. The depth should be four inches, with handle and padlock; the tray should be made on precisely the same plan as in the former case as regards the handles (A A)



that press against the lid, but must be pierced all over, and the holes connected by a continuous length of elastic braid. The braid is lifted with a peg, the flower inserted, the braid presses against the stalk and keeps it fast. It is of course a



merely mechanical matter to enlarge this plan by having a deeper box and a series of trays, each being fitted with handles that just touch the bottom of the tray next above.

CHAPTER XXI.

ON BUYING NEW ROSES.

IF chess-playing developes skill in generalship, and whist educates the mind in casuistry, rose growing should surely favour the foundation of a cautious, decisive, and discriminating character. Very early in the experiences of the amateur rosarian will he become conscious of great desires and of an unaccountable faith in temporalities that are as yet unseen. Forgetting the good old roses that have weathered many a storm, and that have never suffered by comparison with flowers of later date, he will become possessed of a desire to buy the newest of the new, and will hunger for the annual lists, as he that watcheth for the morning. To advise complete renunciation of novelties would be folly, because it is one of the peculiar delights of floriculture to watch for the unfolding of new flowers at the earliest moment at which they can be obtained from the raiser's hands. The rosarian must cultivate, not roses only, but the art of saying NO, for his pursuit is encompassed with temptations, and it is always to be regretted when innocent aims and pardonable pride lead a man to illustrate the proverb which asserts that "fools and their money are soon parted." Buy the new roses, friend, if you like, but bear in mind that we have done our duty to warn you to expect in every such purchase a source of disappointment and vexation unless you have knowledge and judgment, and the courage to say "no," to guide you safely through the peril.

For many and many a year past, there have been introduced to the market some fifty or sixty new roses annually. The number of varieties offered by the French raisers has more than once of late years, reached seventy; but we may assume the average to be fifty with perfect safety. If we count up all the really good roses that have been introduced in the past ten years, and find them to amount to fifty, it will follow

that in addition to these fifty good ones, there were four hundred and fifty bad ones brought into the market, and as new roses meet with a ready and extensive sale, there must have been much disappointment experienced by the purchasers. That five hundred roses were introduced in the course of the past ten years—even allowing for the year when Paris was besieged and the French sent none at all, cannot be matter of doubt, but a doubt may really be entertained if amongst them all there are as many as fifty of really first class quality, and hence worthy of a permanent place in the rose garden. It not uneldom happens that the new roses are in many respects inferior to varieties that they really ought to supersede in order to justify their candidature, and so if we neglect the old ones to look overmuch after the new ones, our collections will surely degenerate, and it will be found that when we thought we were going forward we were really going backward, like the gentleman on the slippery pavement who lost two steps for every one he gained. He got home, the story says; but the rosarian who does this will get abroad and lose his way, and his chief pleasure will consist in parting with his money.

It is generally understood that we are indebted to the French raisers for new roses, but this is not so strictly correct as at first sight appears. It is true that our neighbours on the other side of the channel send us a batch of fifty or sixty annually, but the proportion of bad to good roses in these consignments is enormous. On the other hand, the English raisers annually offer a few, and these are usually good, so that as the English raisers pretty well compensate in *quality* for defect of *quantity* as compared with the French raisers, the disparity is not so great as it is generally considered. However, if a severe scrutiny were to be made, the French would win the day, notwithstanding that they continue every year to deluge the English market with rubbish described as "new roses."

It will be asked why, if there is some check on English raisers tending to the limitation of their selections of seedlings, a similar check cannot be imposed on the French raisers? The case is easily explained. The Frenchmen cannot send their flowers in advance, and not many of them are seen by competent judges from this side in time to ensure sufficient guidance to the purchaser. It is therefore the custom of the nurserymen who trade in roses largely, to buy all that are

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ROSA REGELIANA.

offered and wait for the discovery of the relative value of their purchases. Very few amateurs venture on so hazardous a step. The experienced rosarian who buys to keep and not to sell, is principally guided in his selection by the names of the raisers and their descriptions of their novelties; for certain of the commercial rose growers on the other side are more fortunate, more particular, and more conscientious than the rest, the result being that having succeeded in raising first-class novelties, they select for sale only the most novel and distinct amongst them, and daringly sacrifice the rest, rather than tarnish a good reputation; others are in greater haste to make money, and annually send out a lot of second and third-rate seedlings, with one or two good ones amongst them to "spice up" the lot.

This being the case with the sale of imported roses here, it remains to be said that home-grown varieties, if not intrinsically better (comparing best with best), have a quite different kind of claim on the attention of the rosarian. The organizations of floriculture require our raisers to exhibit their novelties before they offer them as articles of sale to the public. Thus they pass through an ordeal of probation and criticism on their way to the market, and by the time that plants are ready and a price is named, we know something about them. As a matter of fact, the merits of new English roses are canvassed in the gardens and the exhibitions, long before the season for purchasing arrives, and although the wisest may make mistakes, the case is very different as between the purchase of "things not generally known," and things that everybody has seen and admired many times over.

It follows then that the prudent buyer of new roses will be a diligent student of trade catalogues. He will be fortified with the means of anticipating with some degree of accuracy, the ultimate value of all the new roses on offer. When we know the general character of a man's work, we can fairly guess what his next performance may be. It will be found that certain of the raisers of both our own country and France, have contributed largely to the rose garden of its choicest flowers, while others have sent but few that are good and many that are bad.

Some raisers send out novelties but rarely, and never many at one time. Generally speaking, these are to be trusted for something good. It does not follow, however, that those

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whose names appear more regularly, are dispensers of mere rubbish, because the larger men not only raise but purchase seedlings, and hence, if they are really conscientious in their work, their contributions may prove as important for quality as quantity.

At this point we might perhaps, to the advantage of the reader, institute some comparisons of roses in connection with the names of their raisers, to indicate as nearly as might be, the relative positions of raisers as established by their work. In such a matter however, it is easy to do mischief, and utterly impossible to be just without "leaning a little." In a work intended to be of permanent value, the names of traders should be mentioned only when some peculiar necessity requires, and here the necessity does not arise, because the buyer of roses will derive greater advantage from comparisons of his own making than any we can provide for the purpose. Those who know nothing of catalogues or raisers and "all that sort of thing," have but to be content with established varieties, and for them the difficulty of selecting roses for the garden is completely disposed of. And when these "unlearned" amateurs wish to venture further, they may take the advice of the "Garden Oracle" or of writers in horticultural periodicals, who are known to make a study of roses and who *have no commercial interest in the sale of any of them*. A few amongst the many writers who offer counsel to rosarians, contrive to see most of the forthcoming roses while they are in flower in the seed beds, and these can speak by a better rule than guess-work; moreover, being familiar with the products of the several raisers and the reputation of each in the market, they are better enabled to judge of things they have not seen than those who have had no such training and are dependent solely on the descriptions in the trade catalogues.



CHAPTER XXII.

CURIOSITIES OF ROSE GROWING.

THE observant cultivator may expect considerable entertainment in the way of odds and ends, in addition to the pleasure to be anticipated as the result of the normal development of the art of rose growing. That the garden should produce an abundance of beautiful roses, answering in their characters to the panegyrics of the catalogues, is the primary object of the money and time and care bestowed upon it; but ugly roses may occur, and very curious roses, and perhaps valuable novelties, and these things will afford amusement, and in happy instances, something more. The amateur may even hope for blue roses, and black roses, and yellow moss roses, and roses flowering winter and summer without ceasing, and for the rose that Michael Angelo had in view in his immortal sonnet:—

“In chaste hearts, uninfluenced by the power
Of outward change, there blooms a deathless flower
That breathes on earth the air of paradise.”

There are on record many curious kinds of roses that to the superficial appear to belong properly to the land of dreams, but the wise man will not banish them thither in great haste, for history has given him abundant warning of the mischief that dodges the sceptical spirit. The Amazonian army of Diodorus Siculus passed for a fiction for centuries, but the fact was revealed at last as matter of commonplace in the hideous kingdom of Dahomey. The Unicorn has ceased to be regarded as a myth; the Leviathan is snugly housed in the Zoological Gardens; the Anthropophagi are much too plentiful, as they are also too fastidious, for the Fijian cannibals disdain cold missionary unless accompanied with tomato sauce. As for dragons, giants, and two-headed humanities, they have become so cheap that showmen have

enough and to spare of them, and we may any day expect to meet a lot of them on 'change. The consideration of these facts should encourage the rosarian to hope for a few wonders or curiosities, and should they never come, it will be found that the exercise of patience has proved most excellent discipline.

The best blue rose that has come within our own cognizance was that seen by our friend Mr. W. D. Prior, and graphically, indeed pathetically, described by him in the *Gardeners' Magazine* for December 23rd, 1865. It was like some other fancy flowers, of very brief duration, and its proper home was where our friend met with it, the land of dreams. In the "Essay on Roses" of the Marquis D'Orbessan, it is stated that blue roses may be produced at will by watering the plants with a solution of indigo; the simplicity of the process is, we fear, its sole recommendation; but we must confess, with shame, that we have not tested the efficacy of a plan that needs only a blue-bag stolen from the laundry, for carrying it into effect. History affirms—so, indeed, we are told—that blue roses were grown in the gardens of the Alhambra, and the latest English catalogues of roses will be found to contain the names of several varieties that a fanciful florist might describe as blue—painting them for the express purpose with a new *couleur de rose*. The reader, curious in such matters, would, of course, like to have the names of these hypothetically blue roses, and here they are: *Captain Ingram*, rich purple; *Celine Noiret*, purple shaded with rose; *Duhamel du Monceau*, rich red shaded with violet; *Elie Morel*, rosy lilac; *Exposition de Brie*, crimson shaded with purple; *Felix Genero*, rose shaded with violet; *Ferdinand de Lesseps*, purple shaded violet; *Gloire de Ducher*, dark purple; *James Veitch*, deep violet shaded with carmine; *La Fontaine*, purplish crimson; and lastly, *Unique*, a lovely blue-tinted lilac Tea rose, which occasionally, when aided by warm, cloudy, damp weather, makes a near approach to the pure blue of the delphinium. That none of these are blue in the proper sense of the term need not be insisted on; it is sufficient that they suggest the probability of the occurrence of a veritable blue rose "some day" in the future, and it may not be unreasonable to conclude that they are really as blue as those that have been described as such.

Generally speaking, the ancients found no difficulty in

effecting unions, that are now regarded as impossible, as may be seen on reference to Pliny, and the second book of the Georgics. The products of the impossible unions were, of course, as curious as their parentage, and black roses were to be found amongst them in abundance. Since gardening books have been written in the English language, it has been believed and taught that the rose might be grafted on the black currant tree, and the result would be a plentiful production of black flowers. So recently as 1822, Mr. Loudon spoke of roses "quite black," as having been raised by L. Villaresii, of Monza. These have been less fortunate than the black tulips that M. Dumas celebrated in a tremendous fiction, for no story-teller has raised them to the region of romance, and if they remain not amongst the serious facts, we shall find them amongst the prosy fancies. However, supposing we are as near black as to blue, the following list will serve to indicate the best of the blackest roses: *Baron Chauraud*, scarlet with blackish centre; *Black Prince*, well named, crimson shading to purplish black; *Cardinal Patrizzi*, crimson shading to black; *Louis Van Houtte*, red shading to blackish crimson and purple—this ought, perhaps, to be in the list of blues—*Monsieur Boncenne*, blackish purple; *Souvenir de William Wood*, the blackest of the black, a fine rose, with rich shadings of red and purple; *Xavier Olibo*, velvety black shaded with fiery red.

Making ample allowance for the vagaries of a hopeful imagination, we know of no proper reason for doubting that both blue and black roses are within the range of floral possibilities. We have a red delphinium (*D. nudicaule*), and a blue tropæolum (*T. azureum*); we have green roses, green dahlias, a green ixia; and of flowers that may be called black there is no scarcity, though we may, perhaps, soonest find examples amongst the pansies, tulips, and nemophilas. A "really black" flower does not exist, for when the petal of the blackest is held up in a strong light, it is found to be of a deep maroon or purple colour. But so long as it *appears* black when viewed as an opaque body, it *is* black, and may be described "as really black." It may be that the extremes of colour in the roses known to the modern rosarian, were also known from the earliest date at which the flower was cultivated, for we have no reason to suppose the flower more variable now than it was thousands of years ago. In such a

case, our interest centres in the description rather than the fact, and we may hand over the subject to the grammarian, and consider that the horticulturist has fairly done with it. But, on the other hand, if we pin our faith to words and conclude, that amongst the many varieties of roses that have been necessarily and inevitably lost, were some that surpassed the most distinctive blues and blacks of the present day, then the problem falls into the hands of the experimental cultivator, whose hope it must be to recover from chaos, by systematic hybridizing and crossing, the treasures that time has devoured.

As compared with many other flowers that have been long in cultivation, the rose is certainly not particularly sportive. A few—very few—of the named varieties have originated as sports, but the majority, no one can doubt, are veritable seedlings. The commonest of sports is the occurrence of stripes and blotches on a flower that should be self coloured. As a rule, these sports are too indecisive to be regarded otherwise than as defects, and when they happen to be worth perpetuating, it is difficult to keep them, even by propagating from the buds nearest the sportive flower, or the wood that bears it. We frequently receive blotched and mottled flowers for opinion of their merits, and we invariably advise instant propagation from the shoots that produced the sports, but rarely is the same or a similar flower seen again, except as an original sport, which in its turn will probably pass away. Undesirable sports are more common than pretty ones, and may be produced with some degree of certainty, whereas the pretty ones come in their own way, and it appears to be impossible to command them.

The question will here arise, to what extent may cultivation be made to promote variation, without resorting to the practice of raising seedlings? There are several methods proposed, and we will first consider the most simple. This consists in overfeeding the plant by means of strong manures and abundance of water. If carried to a certain point, it will simply kill the roses, but if kept within the destructive line, it will certainly cause them to produce flowers out of character, and these will for the most part be ugly, though they will probably be curious. We will endeavour to prescribe a safe course of action. Prepare a bed by taking out the soil to the depth of two feet. Fill the excavation by first

laying down a foot depth of fat manure from the pigstye. Upon this lay a mixture of turfy loam and fat stable manure, about half-rotten, to the depth of fifteen inches, and then plant, keeping the roots as high up as possible, and covering them with fine dry soil, and finish by treading them in carefully. Now put on a thin coating of quite rotten manure, two or three inches deep. The plantation will now be above the level, but will soon sink below it, and allow room for successive heavy top dressings with fat manure, and of these there must be no stint. Any time before the end of March prune severely, leaving only two or three buds to every strong shoot. Towards the end of April give a heavy watering. Repeat the watering the first week in May. In the last week of May give another heavy watering, and this time add to the water genuine Peruvian guano, or good phospho-guano, at the rate of one ounce to one gallon. All through June and July give copious supplies of water; using plain soft water alternately with the solution of guano, for if that be administered constantly, it will cause death in the ranks. At the end of July cease watering for the season, to afford the trees some chance of ripening the gross shoots, of which they will have begun to make plenty. If, however, you are fired with ambition to obtain knowledge at any price, continue the treatment, or instead of using guano water, supply them with fine old port, at about ninety shillings a dozen: The result in this case, probably, will be that you will lose your roses.

Moderata durant.

One of the results of a moderate plethoric treatment will be a tremendous growth. You may enjoy surprise at that, but you will expect something more surprising. If you continue the treatment through two seasons, you will not be disappointed. In the first instance, you will have some flowers wonderful for size and beauty, especially if you thin judiciously. Such varieties as *Madame Domage*, *Madame Boll*, *John Hopper*, and *Colonel de Rougemont*, will endeavour to fill a hat-box with a single flower, and nearly succeed, but you must provide the hat-box. But some other curious results may be looked for. Flowers will appear with huge coarse petals spreading out like cabbage leaves or young pantiles, and enclosing tufts of green stuff like tangled knots of Berlin wool. Fortune is now smiling on you through the medium of these green eyed monsters, some of which will throw out

leaves, or better still, produce supplementary and supernumerary (but we will not say superfluous) shoots, bearing smaller roses—that is to say, amongst the deformed flowers, some will be proliferous, the flower itself giving birth to other flowers, and on rare occasions these monstrous growths will have some amount of beauty. You must derive as much enjoyment as possible from such curiosities, because, unless you carry on the business in a very secret manner, you will be accused of having paid a high price to make a burlesque of a pleasant pastime, and only inward satisfaction can compensate you for having become a target for the shafts of sarcasm. But having thus learned how to produce green-centred and proliferous roses, you will know how to prevent their occurrence, for, as a matter of fact, they rarely occur when manurial matters are applied judiciously.

We have now to speak of another method by which it is alleged that new varieties may be obtained. In the *Revue Horticole*, 1870, appeared an article from the pen of M. Du Breuil, in which the veteran horticulturist suggested a definite plan for ensuring the production of striped and spotted flowers of varieties that are normally self coloured. He says: "In the month of July, 1867, I visited, at Bagnères-de-Bigorre, the garden of a great amateur of trees and flowers. He showed me several standard roses, and amongst them Géant des Batailles, of which, on some trees all the flowers (which were of a fine deep red), were marked with numerous spots of pale rose-colour. I observed the same peculiarity in other varieties of a light red, such as Général Jacqueminot. All these rose trees in other respects were in a very fine condition of growth, and presented all the other characters of the varieties to which they belonged. The proprietor assured me that this variegation was constant, and that the trees which I saw had then been eight years budded. He also assured me that the peculiarity was perpetuated by budding. What could be the cause of this singularity? M. X. informed me that, being obliged some years ago, for want of better, to take from the bottom of a shoot some shield-buds which apparently had no eyes, he nevertheless obtained from them a shoot which produced a rose-bush of which all the flowers presented the peculiarity I have just mentioned. He attributed this abnormal colouring to the imperfect condition of the bud employed. He repeated the same experiment,

obtained the same result, and now produces this variegation whenever he pleases to do so, by the process which has just been described. The origin of this phenomenon may, I think, be explained thus: Although the leaves at the bottom of a shoot have no apparent eyes, they nevertheless exist in a rudimentary state under the epidermis. The disturbance to which they are subjected in the removal of the bud suspends their development, by depriving them for a time of the nutritive fluids which they received. This suspension of their natural course of development produces a certain derangement of their organism, which afterwards manifests itself in the abnormal colouring of the flowers. Something analogous takes place when cuttings of pear or apple trees bearing un-expanded flower-buds are used for grafts. The fruits which these produce are always more or less deformed, and this deformity is more marked in proportion to the rudimentary condition of the flower-buds when the graft is made. I have no pretensions to infallibility; I think, however, that, with regard to the explanation of the indisputable facts which I have witnessed, I am not very far from the truth, and I further invite the attention of physiologists to this question."

The selection of incipient buds, recommended by M. Du Breuil, is probably the mode adopted by the Honourable Signor Zenone Zea, of Venice, who is reported to obtain new varieties of roses by simple grafting. Much—perhaps, too much—has been heard of the operations of this gentleman; but hitherto nothing has been properly seen. The results of the process have apparently been as carefully concealed as the *modus operandi*; and all the evidence we have of its efficiency consists in the somewhat vague affirmation of Professor di Visiani, and Doctor Zanardini, who were appointed by the Royal Institution of Venice, to report upon the subject. A translation of the full text of their report will be found in the *Gardeners' Magazine* for March 8th, 1873: the essence of it may be conveyed in a few words. It is stated that Signor Zea practises shield-budding, and obtains flowers very different in form, in tint, and in certain markings of a very intense colour. The reporters summarize the results as follows:—

1. "That in the second, and still more so in the third year, when the grafts become stronger and more vigorous, the markings are much more pronounced and the colours generally

brighter, as we saw in other older varieties obtained by him in the same way, the markings of which were very decided and the colours truly brilliant.

2. That the varieties so obtained remain constant when layered or grafted by cleft-grafting or shield-budding in the ordinary way.

3. That if they are lost they can be reproduced by repeating the operation under similar conditions.

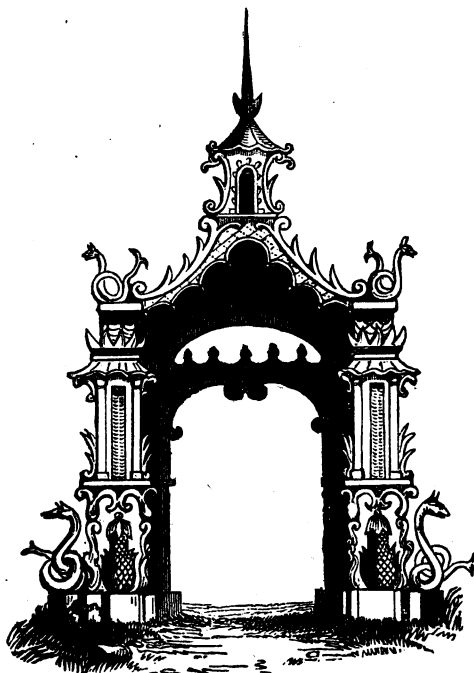
4. That all varieties of roses do not give equally good results. Some give varieties of finer colour and better marked than others.

Being unacquainted with those portions of the process beyond that of ordinary shield-budding, we feel bound to confine ourselves to a simple attestation of the fact, that the blooms seen by us were very different from those on the branches from which the buds were taken.

Signor Zea, in his letter, has shown himself disposed to communicate his method of operation to this institution. This would be very desirable, as it is only when the process is known that we can look to science for a possible explanation of the results so obtained."

An exhaustive chapter on the curiosities of rose growing, would probably exhaust the patience of the reader, and will not here be attempted. In order to keep the subject within reasonable limits, we shall conclude with a proposal for a curious and not ignoble feature of the rose garden. Procure first a lot of English briars, ranging over ten feet in height, and plant them in pairs, five feet apart, on either side of a walk, which should be at least, six or seven feet wide. Draw them together at the top to form a close arcade, and graft them by the common side graft. When they are well united, bud them with free growing Noisettes to form a flowery roof, and in due time you will have a bower of roses of the grandest possible character, such as, perhaps, you would not find by Bendemeer's stream. Another mode of procedure might be adopted to form a berceau bower. For this purpose, plant the tall briars three feet apart, and cross them herring-bone fashion, or in such a way as to form a line in which the letter X would be continuously repeated. They would have to be grafted together at the point of junction, and would require the support of stout stakes, or of an iron fence for two seasons, after which they would hold each other

up, and defy the tempest. In this case, Noisettes would be quite suitable for "crowning the edifice," but we should prefer the most showy perpetuals. Such practice as this is only to be thought of in a district peculiarly favourable to rose growing, for gigantic briars are not plentiful, and when obtained, must have the advantage of a strong deep soil and a genial climate, or they will very soon undergo a process of shortening without the aid of the knife. In a particularly kind climate a bower walk or arcade could be soon produced and long kept by means of own-root Teas and Noisettes, and, of course, the most vigorous growers should be selected. The secret of success would consist in securing a few exceedingly strong shoots in the first instance, and crossing and grafting these to form a herring-bone wall, from which overhead the flowering growth should be produced abundantly.



DESIGN FOR ENTRANCE TO THE ROSE GARDEN.

CHAPTER XXIII.

REMINDERS OF MONTHLY WORK.

JANUARY.—During frosty weather is a good time to have manure wheeled on for top-dressing the plantations. During open weather spread it over the surface and fork or rather “prick” it in, and in doing so be careful not to tear or cut the roots of the roses. If the roses are in regular rows, it is a good plan to open a trench eighteen inches deep midway between every two rows, and half fill the trench with manure and return the earth, then proceed to lightly fork the rest of the ground so as to slightly cover the general coating of manure. This is not usually a good time to plant roses, but a good season to get the ground ready for planting next month.

In the rose-house pruning and top dressing may be proceeded with, and a little heat must be allowed during very severe weather.

FEBRUARY.—Get all planting done as early as possible, and when all are trodden up and finished, lay on a mulch of half rotten dung two or three inches deep to protect the roots from frost. If the dressing of the plantations was neglected last month, let it be done now ; and when any plants appear sickly or deficient of vigour take them up, and remove to reserve ground ; or, having pruned them root and branch, introduce some good turfy loam and rotten manure well broken over the stations, and replant without delay. Roses received from the nursery during frost, should be placed in a dry dark cellar, without unpacking them, till the frost is gone. If received during bright open weather, unpack them directly, dip their roots in a puddle of clay, soot, and cow dung, beaten into a thick paint, and get them planted, staked, and mulched without delay. Towards the end of the month begin to prune the Provence, Moss, French, and Alba roses.

In the rose-house get all pruning and top dressing finished, and give air as often as possible, to prevent weakly growths.

MARCH.—Consider first what arrears are to be made good, and remember that if we have a long period of dry weather with east winds, every rose that has not been properly attended during the winter will suffer. Go on with the pruning, taking the Hybrid China and Hybrid Bourbon first, next the Hybrid Perpetuals, Bourbon, and the hardiest of the Noisettes. Tie out those that grow in a stiff upright manner to keep the heads open and handsome. This is a good time to plant dwarf roses out of pots, provided they have been kept very cool and airy through the winter. If they have been kept growing and are full of bright green leaves, do not plant them for at least another month.

In the rose house examine every plant, and where you see a curled leaf hunt till you discover the cause of it, either maggot or fly. If much fly shut the house up close, give no water, and fumigate. Next morning syringe early and give no air till the leaves are partially dried, then give air as usual. Two days after fumigate again, whether you see fly or not. Syringe as before. By this treatment you will have no more fly for at least a month, perhaps no more all the season. Train out specimens in pots, be careful not to snap the wood in bringing the branches down.

APRIL.—Continue pruning, finishing up with Tea-scented, China, and Noisette. If the beds mulched during winter look unsightly through the predominance of straw in the material, sprinkle over it just enough fine earth to cover it. If any newly-planted roses have not yet been mulched, do it at once, it will possibly prevent some losses, and certainly do good to all. If drought prevails for any length of time water heavily, and again in five or six days unless rain comes. Towards the end of the month is the best time in the whole year to plant out small plants from pots to form beds and groups of dwarf Hybrid Perpetuals, Chinas, Bourbons, etc. Be sure the plants are first well hardened, and if recently received from a nursery, keep them in an airy pit a week, then place them on a sheltered border for a week, then plant them.

In the rose-house many plants will now be coming into bloom, and air must be given with care to ensure a sturdy growth, and yet avoid any check, for the bright days are sometimes bleaker than the sunless ones. Give plenty of water, and try the borders to make sure that they are moist throughout.

MAY.—Insects will abound among roses in the open air, and the only way to deal with them is to search them daily, and wherever there is a leaf curled discover the cause. No fear of fly yet out of doors. Where the heads are crowded thin the new shoots by pinching out, and, whether crowded or not, pinch out all shoots growing inwards and in positions and directions likely to spoil the symmetry of the heads. Suckers will begin to appear and must be removed. This is a good time to look over all the tallies and renew them where needful. If very dry weather give the rosery one very heavy soaking, and repeat in a week or so, unless there is a good fall of rain.

In the rose-house fumigate if the least occasion for it, for aphides propagate rapidly now unless swift destruction overtakes them in their youth. In the case of mildew give plenty of air, plenty of water at the roots, and dust with flour of sulphur when the leaves are damp. Trees on walls require to be smartly syringed night and morning.

JUNE.—Aphis will probably abound out of doors, and the best remedy will be water. Ply them with the full force of one of Read's or Warner's engines every evening, and if this does not dislodge, and scatter, and exterminate the vermin, resort to the use of tobacco powder or tobacco water. If practised in the use of the engine you will have no difficulty in wetting every leaf. As tobacco and all other infusions discolour the foliage, give plain water a fair trial first. There is nothing more certain to destroy aphis than immersion in water heated to 150° Fah., it is even more effectual than tobacco. To promote a fine bloom give water copiously two or three times a week, and thin out the buds where they cluster thickly, using for the purpose a small pair of scissors. The weight of the flowers will soon try the trees, so see that they are staked safely. Tie in the shoots from buds entered last summer, and if bloom buds show nip them out. By judicious stopping, fine heads may be formed this season, so as to fit the trees for good places in the rosery next year. Begin budding wherever the bark rises freely and suitable buds can be got, the saving of a few weeks in entering the bud is sometimes equivalent to the saving of a whole season in the growth after budding.

The rose-house must be freely ventilated night and day, and be abundantly supplied with water. Prune the roses that

are out of bloom, and prepare them for flowering again in the autumn.

JULY.—Before any of the early blooms are past go over the whole stock catalogue in hand and see if the tallies are right, and determine the characters of new varieties as better or worse than old ones in the same class of form and colour. Budding on briars out of doors is the great business of the month. During dull, rainy, close weather neglect everything else to get as many buds in as possible. The manner in which the several varieties bloom will afford better lessons on culture and especially on pruning, than all the books that ever were written. Gather all the fading flowers daily, place the petals in open baskets in a shady place to dry, and let the ladies have them for their perfume jars. If you desire seed of any variety allow a few of the first blooms to expand, remove all the rest, give the tree no water and leave the rest to nature and to fate. If you impregnate with selected pollen, tie the impregnated flower in a light muslin bag. To induce any particular variety to seed, keep it on poor diet and give it very little water, the blooms will then come comparatively single, and will furnish or receive pollen, as may be desired. If the flower intended to receive the pollen is not open at the same time as the father flower, the pollen may be taken off with a dry camel's-hair pencil, and be preserved between silver paper till required.

In the rose-house give air night and day, deluge the place with water, train in all this season's growth; do not shade, except for special reasons, as when yellow roses are just opening, then a little shade is good. Assist the Teas with some good fertilizer on the surface to help them in the autumn bloom. There is nothing so good as half rotten dung, but as it is unsightly, a mixture of guano and wood ashes is to be preferred, and it should be carefully pricked in.

AUGUST.—Continue budding; all the brier stocks not fit hitherto will now take buds nicely. Loosen the ties of those first budded. Manettis will take buds at the end of the month. In the early part of the month put in cuttings of short nearly ripe shoots, and also of shoots that have flowered. In all cases keep cuttings and eyes alive and fresh by sprinkling their tops frequently rather than making the soil they are in very wet, they will in fact callus quicker if the soil is nearly dry.

In the rose-house give air night and day, and abundance of water. Where flower buds show plentifully thin them. Pot roses should be looked to, as the time has arrived for repotting or top dressing them to prepare for an early bloom.

SEPTEMBER.—Finish all budding as soon as possible. Loosen the ties of those budded early, taking notice if there is a pretty good junction between bud and stock, in which case tie again loosely, merely to protect from the atmosphere; if no apparent junction tie again. Some growers cut the tie at the back and leave it to fall away by the swelling of the bud, which it does in time, but not usually until it has done some mischief by resisting the swelling of the wood. Better to untie and tie again than to leave the bud to fight it out. This is the principal season for budding *Manettis*. At the end of the month put cuttings in the open borders or in pits, where they are to remain all winter.

In the rose-house there will now be a grand display of the lovely blooms of *Teas*, and perhaps of mildew, in which case give plenty of water and frequent dustings of sulphur. Give air now with caution, as the dull cold days may injure the bloom, but as a rule ventilate freely.

OCTOBER.—Continue to put in cuttings in the open ground. Prepare for making new plantations, and have the ground ready for planting next month. The best way to secure immediate effect is to purchase strong plants that have flowered in nursery quarters, and have them transplanted in November. Make up the list of varieties now, and let all earthwork and manuring be finished as quickly as possible. The reports in the journals of the last season's rose-shows, will be a great help in determining what additions to make to the rosarium, but better than any learned opinions of the merits of roses is your own opinion after having seen them yourself. A few well-formed plants with ripe wood may be selected from the rosery and taken up for potting. Pot them at once, prune them hard, and put them in a cold frame with the pots plunged to the rim till wanted to force.

In the rose-house alterations and repairs may be made. It is a good time to renew and to plant borders. Pot roses must be under cover, and if not required to flower early, must be kept cool and airy.

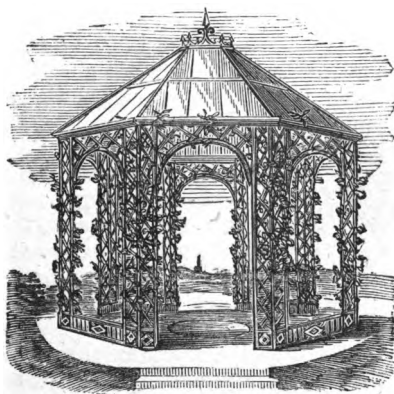
NOVEMBER.—Planting is the work of the season, but it must only be done when the soil is comparatively dry; if the

weather is unfavourable, lay the plants in by the heels and wait for better times. Get in briars and Manettis, and plant in nursery rows for operating on next season.

In the rose-house planting and pruning may be carried on, and pot roses must be got into shape and otherwise prepared for next season's work.

DECEMBER.—It is best not to protect any of the tender roses until they have felt a little frost. But take care it is but little, and having given them a taste, protect with loose, light, dry materials which admit of being quickly removed. See that all the standards are safely staked, as if they rock about during gales they will be greatly injured. Newly planted roses should be mulched at once.

In the rose-house put the first batch in to force, always beginning, if possible, with Common Cabbage and a few of the Teas, as they bear early forcing best of any. Be very cautious in employing heat, for a sudden rise of the temperature will cause the buds to fall unopened. A dry heat will bring green fly and red spider, therefore promote a genial humidity as the heat is increased.



RENDLE'S ROSE PAVILION.

CHAPTER XXIV.

THE ROSE SHOW.

And what a wilderness of flowers !
It seem'd as though from all the bowers
And fairest fields of all the year,
The mingled spoils were scattered here.

MOORE.

THE Rose Show is a modern institution, and one of the most successful of its class. Its rapid and unchecked development affords the best argument for its necessity and usefulness, and suggests that were it possible to blot it out of existence suddenly, the loss would be deeply and painfully felt. Probably the subject is as well adapted to afford matter for profitable speculation to the moral philosopher, as to the florist, who feels that his pursuits and recreations play their part in modifying the complexion of society, although in promoting and preparing a flower show he may have no ambition whatever to initiate an agency for any except strictly floral purposes. Whatever may have been the effect on what we call civilization, of the special exhibitions of roses that are now so common, it is certain that they have operated in a most decisive and beneficial manner in the promotion of rose growing, the splendour of the rose as thus displayed, making impressions that books were all unequal to, and that were not to be expected even from the ordinary aspects of the rose garden in the height of the season. Institutions that may be classed as "fashionable," are not unseldom ephemeral, and at the best many avow their dislike of them, and interruptions of their prosperity may reasonably be anticipated. Now the rose show belongs to the category of "fashionable" entertainments, but it was never known in the course of the sixteen years that have elapsed since their first establishment, that any sane person has had the courage to avow a dislike of them, or that a single failure has occurred.

The beginning was humble enough, but the start once made in the metropolis, was quickly imitated in other towns, and the probability is all in favour of the increase, rather than the diminution of such gatherings, for amateurs of roses increase in numbers rapidly, and the augmentation of the ranks is not accompanied with any perceptible decline of enthusiasm.

The founder of the rose show was the Rev. S. Reynolds Hole, of Cauntton Manor, Newark. There is no more ardent lover of the rose, and no better judge of its exhibition qualities, and no one more expert in its cultivation, than this huge veteran florist, who occasionally makes the playful boast, that he is the "greatest clergyman of the Church of England." Mr. Hole has told his own story in his delightful "Book about Roses." Our business is to treat the rose show from our own point of view, and in the hope of rendering some service to the amateur.

The experiment with which Mr. Hole led the way, consisted in forming an association called "The National Rose Show," the first exhibition of which took place in St. James's Hall, on the 1st of July, 1858. The surprise, the delight, and the promise of this novel entertainment, filled the public mind with the happy consciousness that *a new pleasure had been discovered*. The success was complete, but it was not the less owing to the wise heads and willing hands of those amongst whom the work was divided, than to the exquisite beauty of the display, and the absolute newness of its distinctive features. The second National Rose Show was held in Hanover Square Rooms, on the 23rd of June, 1859, when the contributions represented no less than twenty English counties. In 1860, the year when the sun lost his way, and Jupiter Pluvius held a four months' jubilee, the National Rose Show was held in the Crystal Palace, on the 12th of July, and thenceforward, rose shows were multiplied, and generally speaking, the plan prepared by Mr. Hole in the first instance, was adopted as the basis of them all. The most important of these gatherings are those which occur annually in the Crystal Palace; in the gardens of the Royal Horticultural Society, South Kensington; in the Town Hall, Birmingham; the Shire Hall, Hereford; and at Stamford.

Let us suppose we have found our way to a rose show for the first time. If the affair has only average merit, we shall

be agreeably startled. There will be a broad table of great length furnished on both sides with stands of cut roses of all colours, forming two distinct banks of the most glorious flowers. The crowd press to the ropes and contend—not unkindly—for front places, and those who obtain them scan the flowers eagerly as they pass slowly along: on every hand may be seen note-books in use, while everywhere may be heard exclamations of wonder and admiration and ecstasy. As for note-books, indeed, they are to be seen in use in all festive gatherings of a public nature, but never in such plenty or for such earnest use as at a rose show. Take warning from the fact, brother, to have your labels nicely written when you send your roses to the show, for the admirers of your flowers may be pressed and hustled, and required by the imperious policeman to “pass on,” at the very moment when the names of a choice twenty-four are being entered in the note-book, with perhaps your name as the happy owner of them.

When the long lines of lovely flowers and excited and delighted faces of their admirers, have made their proper impression on you, and the rich spicy odour that pervades the place has not yet begun to satiate the sense, you will begin to consider the matter critically, and from that moment the world of roses will begin to expand and will soon become too vast for easy grasping. If you will condescend to recognise the writer of this as companion for awhile, with free license to talk at you as well as with you, some things may be noted that would escape your attention, and that some day you might sigh for a knowledge of, because of their appertaining to the public love of the Queen of Flowers.

Why are there no pot roses at this show? As a matter of fact, there may be a few and we shall have to find them, but the first glance shows that pot roses do not constitute a distinctive feature. This you will say is a mistake, and in a certain sense it is; but if we may speak in a way that sounds irreverent, but is really not so, we would observe that the mistake is not man's but Nature's. It is an interesting fact that classes have been many times provided for pot roses at summer rose shows, and a good exhibition of plants has never once rewarded the brave spirits who invited them. The delicate leafage and exquisitely folded flowers of first class specimen roses can only be obtained in the days of spring by

means of slow forcing most judiciously conducted. By the time the open garden supplies flowers for exhibition, pot roses are past their best, and it is rather by accident than design when a collection is seen at a rose show in a condition of freshness and richness to justify their being there. Now, here is a task for the enthusiast who loves to begin with a difficulty, to establish pot roses as a normal feature of the summer exhibitions.

The rush that ensued when the barriers were removed and the judges retired, has now given place to an orderly inspection, and we shall find it pleasant work to admire and criticise the individual flowers. As you wish to make notes for your own particular use, it will be well to have a look at the twelves and forty-eights while you and they are fresh, for they will teach you more to begin with than the seventy-twos and ninety-sixes. To obtain first place in a good competition in the forty-eight class, requires really wonderful flowers. The trade lots will probably be the best, because the trade grower has thousands of trees to select from, and he and his men are adepts in the business. As a rule, nine times in ten, nay, ninety-nine times in a hundred, a first prize forty-eight will consist of sorts every one of which the amateur rosarian should have, whether new or old, or of whatever colour. There may be half a dozen good stands of forty-eight and a dozen or more of twelve, and from these you may select with little fear of making a mistake, for of course when you come to boxes dotted with things like ragged button covers, or rosettes that have been crushed in an election squabble, you will pause in note making and push on to see something better. At every rose show, however good as a whole, you will be sure to see some collections that surprise by their smallness, raggedness, and impurity; but laugh not at them, for they represent a gentle hope and an honourable pride. You will find that they are the contributions of amateurs who have everything to learn. They have been overjoyed with their roses at home; they have been fired with ambition to win prizes with them. They have, with trembling hands and throbbing hearts, entered the lists, and only now, when it is too late to avert disappointment, do they truly know how high the standard is, and how conspicuous are their own shortcomings. The big classes and the special classes will furnish us with the names of many fine varieties that we did

not meet with in the smaller groups, and if we give up note making when we arrive at these, we shall perhaps enjoy them all the more, for a first-class ninety-six, ranging nicely in boxes of the same make, and put up as a ninety-six man, that is to say, as a first-class trade grower can put them up, is a sight for the gods. And we shall find boxes filled with Persian Yellow, or Marechal Niel, or Cloth of Gold, or Perle de Lyon, or La France, or Marie Baumann, and we shall be bound to linger over them and remember that we came here to enjoy ourselves.

In the course of your comparisons you will meet with certain varieties again and again, and the repetition will not tire you. Bad roses do not appear frequently in first and second prize groups, but good ones do, and those few that appear everywhere may be booked with safety as the best of roses. Now we have made note of many such, and have thus far dealt with things seen; but what of things unseen? What of roses known to fame, of which we fail to find examples? Here arises one of the delights of the rosarian critic. He has been looking for Isabella Sprunt, or Madame Margottin, or the almost blue Unique, or the winter-flowering moss that was whispered about, or the yellow perpetual that was actually described in the papers. Why are none of these here? Really, brother, a prompt answer to the question is not ready; but how likely it is that on this particular date in this particular season, none of them are fit for show, and that is the reason nobody has presented them. Matter for reflection and inquiry here. We shall meet some of the veterans presently, and the talk will be all of roses, so we will hope to hear about these absent ones, whether they have been "cast as rubbish to the void," or are simply out of time, and hence unpresentable.

Not less interesting than roses of renown that do not appear, are those that are known to nobody, and that on particular occasions startle everybody by their splendid qualities, and especially by their aid in finishing a grand twenty-four or forty-eight. At the Royal Horticultural Society's Rose Show at Bath, in 1873, there appeared in the great trade class a rose labelled "Marquise de Gibot." The judges quickly singled it out, the reporters made note of it, and soon afterwards the amateurs crowded round the stand containing it, and it was booked by hundreds as a rare and glorious find. Who raised it? When was it sent out? were the questions that over-ruled

all others throughout the continuance of the show, and at luncheon and dinner tables afterwards, and again at night, when the florists met over grog and cigars, and found the labours and enjoyments of the day sufficient food for merriment. When we turned to our catalogues next day we found that Marquise de Gibot had been out some years, and had fallen into obscurity through lack of first-class merit; its splendid appearance on this occasion being somewhat of a fluke, or, at all events, an illustration of the axiom that every rose has its season.

Observe, now, in the very stand before us, a smallish neatly-folded, nicely-finished rose, of an exquisite plum colour, enriched by shades that tend here to rich vinous purple, there to deepest indigo blue. It is a marvellous bit of colouring, and, of course, we shall book the name, Louis XIV. Nowhere else in all the show does this lovely purple rose appear, and the fact, if our axiom is sound, affords a hint that it is not to be depended on, for whoever could cut such a flower would not fail to take advantage of it for a twenty-four or forty-eight. The advent of Louis XIV. is quite fresh in our recollection; we "bought it in," as the gardeners say, with others of its season, and in due time secured a nice lot of plants. Alas! it proved to be one of the shyest varieties ever seen; its flowers were like angels' visits, and notwithstanding its exquisite beauty, we were glad to exchange away our plants, reserving only one, just to keep it in the list as a lovely curiosity. If you enquire into the case of varieties rarely seen you will certainly gain useful information, and you will soon learn that a rose is not of necessity to be condemned because it is rarely shown, for some of the most useful roses are simply not good enough for show, and others flower at a time when the shows have not commenced or are all over.

It is time we had a look at the new roses. Were we companioning an adept instead of chaperoning a beginner, we should probably have sought out the new roses first of all, to make sure of seeing them at their best, and before the first sense of fatigue began to tell on our powers of comparison. The first thing to be done is to count up the classes and look for the contributions, so as to understand in the first instance how far the new varieties are numerically represented. You see we have eight lots of twelve of the newest; three collections, comprising the new roses of the past three years; and a con-

siderable number of competitions in particular varieties. To get at something useful quickly, we may adopt the same rule as before, that is, take note of the sorts that are most frequently repeated. It will be observed that in every one of the eight twelves, four varieties are repeated, and in three out of the eight no less than seven varieties are repeated, and this favoured seven includes the still more-favoured four. We may conclude that the seven are good, or they would not be so frequently presented. The concurrence of exhibitors in their favour is a most important point, for it is evident that in seven different gardens, widely separated, these were capable of supplying, on the day of the show, flowers of fine quality. Having compared the new varieties amongst each other, we must also compare them with old varieties of the highest renown in their several sections and classes. For example, here is a grand new yellow rose, of which two samples are shown in two separate stands; in one case it is described as a Noisette, and in the other as a Tea. We will have a good look at it and get it well into our heads, and then go over yonder and have a look at the best blooms of Maréchal Niel, Perle de Lyon, and Celine Forestier. Here is a delicious Perpetual in the way of Marie Baumann; let us carry it in our mind's eye to that established beauty, and compare and judge. We must moreover judge them as they stand without the aid of comparisons with particular varieties. Can you find a yellow eye in the centre of that huge camellia-like crimson flower? Has that pretty white a pale or dark leafage? Is it, think you, a Perpetual as the label describes it, or something else? Look at these common-place flowers that have not one quality to distinguish them as valuable novelties; we will book them all as bad, and if any of them turn out good, as perhaps they may, we shall fear no reproaches from within or without, for we judged them as they appeared, by the best samples the best cultivators could put upon the table. Keep in mind what a new rose should be, considering what roses we already possess; be not led away by mere prettiness, and in any and every case take note of the growth, for if that is weak and wiry, the variety, however attractive, is only too likely to turn out comparatively worthless.

In due time we shall see in the horticultural papers the reports of the experts, and then we will compare them with our own notes and remembrances. We shall find, perhaps,

that we have made some mistakes, and we may discover not a few mistakes on the other side, for even the papers are fallible, reporting is usually done in a hurry, and in proportion as a pursuit is followed as a matter of business, the genuine enthusiasm that begot it fades away; hence the observations of a genuine amateur are often far more accurate and discriminating than those of the most experienced and eclectic of literary florists.

NOTES ON WILD ROSES.

Communicated to the author by M. JEAN SISLEY, of Lyons, after having perused the first Chapter of this work.

Rosa sulphurea, in the section of *pimpinelifoliæ*, is described as a bush armed with spines and requiring an extremely moist soil. The scarcity of this pretty yellow rose is one of the curiosities of this interesting subject. Is it from insufficiency of moisture that with us this species shows a tendency to disappear? Or is the term of its existence drawing to a close? Species, like individuals, appear to have a life-term which they may not exceed.

Under the same head it is remarked that from *Rosa alpina*, crossed with the China rose, "have been obtained the *Boursault* group." I am inclined to think you are mistaken here, for when the Boursaults first made their appearance artificial fertilization was but little practised.*

In respect of raising new varieties, you give the French rosarians more credit than is due to them. As a rule, they do not practise systematic cross-breeding, but gather the seeds as they can get them, and sow them as market gardeners sow spinach or carrot seed.†

* The first double variety of the Alpine rose was named in honour of M. Boursault, and "the Boursault group" was formed around this nucleus. In outward aspects *Blush Boursault*, *Gracilis*, *Amadis*, and others, do certainly indicate relationship to the Chinas.—S. H.

† If so careless, how do they give the pedigrees? Do they guess at them?—S. H.

The *Bourbon Rose* is described as having been obtained from the Isle of Bourbon, and it is added "of its origin nothing is known." I think I can help my friend here. I heard from M. Grandidier, who forty years ago was a seedsman in the Quai de la Mégisserie, Paris, a story that may be worth telling. He went to the Isle of Bourbon as a naturalist. There he found the estates separated by hedges of roses, in some cases formed of the variety known as Four Seasons; in other cases the Bengal rose was used. Occasionally both sorts were planted in the same hedge. To the best of my belief, the first Bourbon was taken from one of these hedges, and it was M. Grandidier who brought it to Europe. Nothing can be easier to understand. Natural cross-fertilization had accomplished its purpose.

Rosa Hardyi is described as "a pretty yellow hybrid" of the berberidifolia section. I have every reason to believe, although I cannot affirm it to be a fact, that for this remarkable variety we are indebted to M. Hardy, who was director of the gardens of the Luxembourg about the year 1832, and that it was obtained by him by artificial fertilization.

I regret that you have overlooked an extremely interesting type: *Rosa polyantha*. This was imported from Japan about ten years ago by Mr. Robert Fortune.* It is distinguished from every other type by its panicked blooms. It is the only section exhibiting this peculiarity, which it would be interesting to find reproduced in other sections of the genus *Rosa*. From its seeds, which have been sown during the last three or four years, some remarkable varieties have been obtained, which, no doubt, will soon be sent out; but in these the panicked flowers are not reproduced. I imagine this is owing to the type with single flowers, which seeds abundantly, having been cross-fertilized through insect agency, and thus the characters of certain garden varieties have been imparted to the offspring. It appears not to have crossed any of the other types with its own pollen. In a bed I made two years ago with the seed in question (without practising artificial fertilization) I found pure eglantines. I would therefore recommend rosarians to try artificial fertilization on the other types, as, if we could get tea-scented Bourbons, and perpetual hybrids

* Through M. Sisley's kindness *R. polyantha* is now in my possession.—S. H.

with flowers in panicles, we should change the whole aspect of the rose garden, and in a most interesting way modify the rose genus.

It is by the aid of artificial fertilization that our Belgian and English neighbours have kept ahead of us. We are more favoured than they in the matter of climate, especially as regards rose-growing. Let our rosarians, then, profit by their natural advantages; let them no longer trust to chance or to the natural tendency of the rose to sport; but let them try the effects of a modicum of science and simple intelligence.

LABELS FOR ROSE TREES.

It is of the utmost importance to keep rose trees neatly and effectually labelled. The common wood tallies used for the purpose answer for a time, but if they are not periodically looked over and renewed before the wood decays or the writing is obliterated, it is only too probable that the names of the roses will be lost, and no small part of the delight they should afford will cease with the disappearance of the names. A large collection can be kept in order effectually by means of a catalogue with numbers attached to the names, the trees having labels bearing corresponding numbers. Names are ephemeral, numbers are permanent. We may for example have cast out Great Western long ago, and if so, the label bearing the name has ceased to be of any use. But if that variety was entered as No. 9, we shall find a use still for No. 9 label, and if the numbering and cataloguing plan be adopted, it will be worth while to have substantial metal labels bearing the numbers in strong relief. There are many kinds of metal plant labels in the market, but none to equal in hardness, neatness, legibility, and cheapness, the Shakspearian Labels, made by Mr. Bell of Stratford-on-Avon. These can be provided with names as well as numbers, and of every shape and size that fancy or convenience may suggest.

The best material for attaching all kinds of labels is copper wire of about the thickness of this line ———. If very thin it is apt to cut, if too stout, it is difficult to twist it with the fingers, and it is waste of money to provide wire so stout that pliers or pincers are required in using it. The soft stuff called "horticultural wire" is worse than useless, for it perishes quickly and lets the label fall to rot or be trodden into the ground.

The cheapest label, and one that may be considered indestructible, is made of zinc, and written upon by means of a quill pen and a prepared ink. New sheet of zinc should be obtained for the purpose, and it should be cut up into convenient lengths, the corners nicely rounded off and a hole pierced at one end for the wire. In respect of making the inscription, there are at least half a dozen modes of accomplishing it, but the simplest of all, and not the least effective, is to proceed as follows:—Prepare a solution of blue vitriol, so weak that when you write with it on hard white paper it makes only a pale blue mark. Scrub the labels with fine sand or pounded brick with a little moisture. When dry write upon them, and the moment they are written plunge them in clear water, and wave them about in it, and put them aside to dry. Those who prefer a more complicated process may proceed as follows: Take half an ounce of verdigris, half an ounce of sal ammoniac, and a quarter of an ounce of lamp-black. Pound them in a mortar, and stir up with five ounces of water. This ink is to be applied with a quill pen. We employ labels of this kind for trees and shrubs, taking care every year to examine them all, and loosen the wires of such as require it.

The small wooden labels that are tied up in bundles in red tape and sold in the City shops are very neat and very bad. The clear white face upon them is produced by smearing them with strongly-sized whiting, on which the inscription is to be placed. The rain washes off the whiting and the writing together, and the label is made a blank for evermore. Those who buy ready-made labels should ensure having them whitened with lead, or without any such finishing at all. Old wooden tallies may be put into use again by slivering off the surface with a sharp knife, and putting on a thin smear of white lead.

CHAPTER XXV.

SELECTIONS OF ROSES.

THE prudent amateur will not be tied up by any ready-made selection; but the following may prove useful as aids when purchasing and planting occupy the attention of the rosarian:—

120 OF THE FINEST HYBRID PERPETUALS FOR EXHIBITION.

(Arranged according to their colours).

*(Best 48 marked thus *).*

Shades of purple, blackish crimson to crimson-scarlet.—Antoine Ducher, Baron de Bonstetten, Black Prince, Charles Lefebvre, Charles Fontaine, Charles Wood, Devienne Lamy*, Duc de Cazès, Duke of Edinburgh, Ferdinand de Lesseps*, Gloire de Ducher*, Horace Vernet, Eugène Verdier*, Louis Van Houtte*, Maréchal Vaillant, Madame Jacquier, Pierre Notting*, Pitord, Prince Camille de Rohan*, Reynolds Hole, Souvenir de Caillat, Vicomte Vigier, Xavier Olibo.

Crimson-scarlet, red, crimson, and deep carmine.—Abbe Bramerel, Alfred Colomb*, Annie Wood*, Baron Haussmann*, Camille Bernardin*, Docteur Andry*, Duc de Rohan*, Duchesse de Caylus, Félix Genero*, Françoise Fontaine, François Treyve*, François Lacharme, Général Jacqueminot*, Gloire de Santenay, Le Rhône, Lord Clyde, Lord Macaulay, Madame Marie Rady*, Madame Victor Verdier, Marie Baumann, Mrs. Charles Wood, Maurice Bernardin, Oliver Delhomme, Président Thiers, Sénateur Vaisse, Thorin*.

Light crimson, carmine, deep vivid rose, and cerise.—Annie Laxton, Baronne Louise Uxkull, Bernard Palissy*, Beauty of Waltham*, Mdlle. Clémence Joigneaux, Countess of

Oxford, Duchesse de Morny, Edouard Morren, Etienne Levet*, Françoise Michelon, Glory of Waltham, Horace Vernet, Jules Margottin, Madame de Cambacères, Madame Domège*, Madame Creyton, Madame George Schwartz*, Madame H. Jacquin, Marie Rady*, Marie Cirodde, Marquise de Castellane*, Souvenir de Mons. Boll, Vicomtesse Vezins, Victor Verdier*, Victor de Bihan.

Rose to deep pink.—André Dunand*, Abel Grand*, Alpaide de Rotalier, Baronne Prevost*, Baroness Rothschild, Charles Rouillard*, Comtesse Chabriland, Ch. Verdier, Comtesse de Jaucourt, Gloire de Vitry*, Duchesse d'Orleans, Elie Morel*, Josephine de Beauharnais, Louise Peyronny, La Reine, La France*, Lyonnais*, Madame Douville, Madame Alice Dureau, Madame Furtado, Madame Vigneron, Marguerite Dombrain, Mons. Noman, Madame C. Verdier, Madame Knorr, Marguerite de St.-Amand*, Nardy Frères, Richard Wallace.

Pink to tinted whites inclusive.—Auguste Mie, Alba Carnea, Caroline de Sansal*, Charles Verdier, Cécile Chabriland, Sophie Coquerel, Mrs. Rivers*, Marguerite de St.-Amand*, Miss Ingram, Mdle. Bonnaire, Marquis de Mortemart*, Princess Beatrice, Princess Mary of Cambridge*, Reine Blanche, Souvenir de la Malmaison*, Thyra Hammerich*.

Pure white.—Madame Lacharme*, Madame Alfred de Rougemont, Perle des Blanches, Coquette des Blanches*.

24. FINEST EXHIBITION VARIETIES IN CULTIVATION.

(Arranged according to their colours for stands of 18, 20, and 24.)

Very darkest.—1. Prince Camille de Rohan, H.P. 2. Louis Van Houtte, H.P. 3. Xavier Olibo, H.P.

Scarlet-crimson.—4. Charles Lefebvre, H.P. 5. Alfred Colomb, H.P. 6. Marie Baumann.

Carmin-crimson.—7. Ferdinand de Lesseps, H.P. 8. Countess of Oxford, H.P. 9. John Hopper, H.P. 10. Victor Verdier, H.P.

Rose.—11. Marquise de Castellane, H.P. 12. Abel Grand, H.P. 13. Baroness Rothschild, H.P.

Rose tinted white.—14. Mdle. Eugène Verdier, H.P. 15. La France, H.P.

White slightly tinted.—16. Souvenir de la Malmaison, Bourbon. 17. Madame Lacharme, H.P.

18. Gloire de Dijon, Tea, salmon and cream. 19. Maréchal Niel, Noisette, yellow. 20. Docteur Andry, H.P., scarlet-crimson. 21. Marguerite de St.-Amand, H.P., light rose. 22. Comtesse Chabriland, H.P., pink. 23. Etienne Levet, H.P., carmine-red. 24. Elie Morel, H.P., pink or rose.

25 OF THE FINEST TEA-SCENTED AND NOISSETTES.

TEAS.—Adrienne Christophle, Alba Rosea, Belle Lyonnaise, Boule d'Or, Cheshunt Hybrid, Comte de Grivel, Gloire de Dijon, Madame Camille, Madame Céline Noirey, Madame Ducher, Madame Levet, Madame Margottin, Madame Falcot, Madame Trifle, Marie Van Houtte, Perfection de Monplaisir, Perle de Lyon, President, Reine de Portugal, Rubens.

NOISSETTES.—Céline Forestier, Lamarque, Madame Caroline Kuster, Maréchal Niel, Triomphe de Rennes.

80 OF THE FINEST VARIETIES FOR POT CULTURE.

(*Best 30 marked thus **.)

HYBRID PERPETUALS.—Annie Laxton, Abel Grand*, Alfred Colomb*, Anna Alexieff, Anna de Diesbach*, Antoine Ducher, Baroness Rothschild*, Baroness Louise Uxkull*, Beauty of Waltham*, Bessie Johnson, Centifolia rosea, Charles Lefebvre*, Charles Rouillard, Countess of Oxford, Dr. Andry, Duchess of Sutherland*, Duke of Edinburgh*, Etienne Levet*, Françoise Louvat, Général Jacqueminot*, Gloire de Ducher*, Horace Vernet, Julie Touvais, Léopold Hausberg, Madame Alice Dureau, Madame Caillat, Madame Clémence Joigneaux*, Madame Charles Crapelet, Madame Fillion, Madame Lacharme*, Madame Victor Verdier*, Mdle. Thérèse Levet, Marguerite de St.-Amand*, Marie Baumann*, Marquise de Castellane*, Monsieur Boncenne, Monsieur Paul Neron*, Monsieur Noman, Paul Verdier, Prince Camille de Rohan*, President Thiers, Princess Christian*, Princess Mary of Cambridge, Reine du Midi, Sénateur Vaisse, Victor Verdier*.

TEA-SCENTED.—Alba Rosea, Belle Lyonnaise, Glorie de Dijon, Madame Céline Berthod*, Madame Camille, Madame de St.-Joseph*, Madame Falcot, Madame Jules Margottin,

Madame Hippolyte Jamain, Madame Villermoz*, Marie Ducher, Marie Sisley, Monsieur Furtado, Perle de Lyon, Président*, Rubens, Souvenir d'un Ami*, Souvenir d'Elise Vardon*, Vicomtesse de Cazès.

BOURBONS.—Baronne Gonella, Coupe d'Hébè, Rev. H. Dombrain, Souvenir de la Malmaison.

HYBRID CHINA.—Charles Lawson*, Juno, Miss Ingram, Paul Ricaut.

NOISETTES.—Céline Forestier*, Jaune Desprez, Lamarque, Maréchal Niel, Solfaterre, Triomphe de Rennes*.

MOSS.—Baron de Wassenauer, Celina, Common, Gloire des Mousseuses, John Cranston, Princess Adelaide, Princess de Vaudemont, Reine Blanche, White Bath.

50 OF THE FINEST VARIETIES FOR GARDEN DECORATION.

HYBRID PERPETUALS.—Abbé Brammerel, Alpaide de Rotalier, Anna Alexieff, Anna de Diesbach, Albion, Baroness Rothschild, Baronne Prevost, Beauty of Waltham, Coquette des Alpes, Curé de Charentaye, Camille Bernardin, Dr. Andry, Duchesse de Morny, Edouard Morren, Elie Morel, Elizabeth Vigneron, Eugène Appert, Général Jacqueminot, John Hopper, Jules Margottin, La France, Louise Darzins, Madame Charles Wood, Madame Knorr, Marguerite de St.-Amand, Madame Noman, Madame Moreau, Madame de Cambacérés, Madame Victor Verdier, Mdle. Marie Rady, Maréchal Vaillant, Marquise de Castellane, Président Thiers, Prince Humbert, Pavillon de Pregny, Princess Christian, Reine Blanche, Souvenir de Charles Montault, Thérèse Appert, Vicomte Vigier, Triomphe des Beaux-Arts, Victor Verdier, W. Rollisson.

PERPETUAL BOURBONS.—Baron Gonella, Baronne de Maynard, Comtesse de Barbantanne, Emotion, Louise Odier, Catherine Guillot, Bourbon Queen, Madame Gustave Bonnet, Michel Bonnet, Rev. H. H. Dombrain.

HYBRID CHINA.—Blairi No. 2, Brennus, Charles Lawson, Coupe d'Hébè, Juno, Madame Blantier, Paul Ricaut, Paul Verdier, William Jesse.

60 OF THE FINEST VARIETIES SUCCEEDING IN THE NEIGHBOURHOOD OF TOWNS.

HYBRID PERPETUALS.—Alfred Colomb, Anna Alexieff, Baroness Rothschild, Baronne Prevost, Beauty of Waltham,

Charles Lefebvre, Comte de Nanteuil, Comtesse de Jaucourt, Docteur Andry, Duke of Edinburgh, Duchesse de Morny, Elizabeth Vigneron, Elie Morel, Eugène Appert, François Treyve, François Lacharme, Général Jacqueminot, Gloire de Ducher, La France, Jean Goujon, John Hopper, Jules Margottin, Lord Raglan, Louise Darzins, Madame Charles Wood, Madame Clémence Joigneaux, Madame de Cambacérès, Madame Domage, Madame Knorr, Madame Victor Verdier, Paul Neron, Pierre Notting, Prince Camille de Rohan, Prince Humbert, Princess of Wales, Thorin, Triomphe des Français, Vicomte Vigier, Vicomtesse Vezins, Victor Verdier.

BOURBON PERPETUAL.—Catherine Guillot, Comtesse Barbantanne, L'Avenir, Louis Odier, Madame Charles Baltet, Michel Bonnet.

BOURBON.—Prince Albert, Souvenir de la Malmaison.

CHINA.—Common China, Mrs. Bosanquet.

MOSS.—Baronne de Wassenaer, Common, Luxembourg.

HYBRIDS OF CHINA AND BOURBONS.—Charles Lawson, Coupe d'Hébé, Paul Ricaut, Paul Perras, Vivid, William Jesse.

60 OF THE FINEST VARIETIES FLOWERING LATE IN THE AUTUMN.

HYBRID PERPETUALS.—Abel Grand, Alfred Colomb, Antoine Ducher, Auguste Rigotard, Baronne Prevost, Baron Haussmann, Beauty of Waltham, Boule de Neige, Charles Lefebvre, Duchess of Sutherland, Dupuy-Jamain, Elizabeth Vigneron, Ferdinand de Lesseps, Fisher Holmes, Général Jacqueminot, Jules Margottin, La France, Lord Macaulay, Louise Darzins, Lyonnais, Madame Alfred de Rougemont, Madame Alice Dureau, Madame Bellenden Ker, Madame Creyton, Madame Derreux Douville, Madame Domage, Madame George Schwartz, Madame Jacquier, Madame Rival, Madame Victor Verdier, Madlle. Annie Wood, Madlle. Eugénie Verdier, Marguerite de St.-Amand, Marie Baumann, Marquise de Castellane, Pierre Notting, Président Thiers, Princess Beatrice.

BOURBONS AND BOURBON PERPETUALS.—Catherine Guillot, Comtesse Barbantanne, Emotion, Louise Margottin, Louise Odier, Madame Charles Baltet, Madame Gustave Bonnet, Madame de Stella, Michel Bonnet, Modèle de Perfection,

R

Rev. H. H. Dombrain, Sir Joseph Paxton, Souvenir de la Malmaison.

TEA-SCENTED.—Belle de Bordeaux, Belle Lyonnaise, Gloire de Dijon, Madame Damaizin, Madame Trifle, Madame Villermoz, Madlle. Cécile Berthod, Victor Puillat.

60 OF THE FINEST CLIMBING AND PILLAR VARIETIES.

(*C. Climber. P. Pillar.*)

Anna de Diesbach, *P.*; Baronne Prevost, *P.*; Beauty of Waltham, *P.*; Charles Margottin, *C.*; Dr. Andry, *P.*; Duchess of Sutherland, *P.C.*; Félix Genero, *C.*; Général Jacqueminot, *P.C.*; Glory of Waltham, *P.C.*; Jules Margottin, *P.C.*; La Reine, *P.*; Léopold Premier, *C.*; Madame Charles Wood, *P.*; Madame Domage, *P.*; Madame Marie Girod, *C.*; Madlle. Annie Wood, *C.*; Maréchal Vaillant, *C.*; Paul Neron, *P.*; Perfection de Lyon, *C.*; Prince de Joinville, *C.*; Prince Leopold, *C.*; Princess Louise Victoria, *C.*; Souvenir de Poiteau, *C.*; Thorin, *P.*; William Jesse, *P.C.*

BOURBONS AND CHINAS.—Blairi No. 2, *C.*; Charles Lawson, *P.C.*; Coupe d'Hébé, *P.C.*; L'Avenir, *C.*; Louise Odier, *P.C.*; Madame Plantier, *P.C.*; Paul Perras, *P.C.*; Paul Verdier, *C.*; Vivid, *C.*

TEA-SCENTED.—Belle de Bordeaux, *C.*; Climbing Devoniansis, *C.*; Gloire de Dijon, *C.*; Homer, *P.C.*; Madame Levet, *C.*; Madame Trifle, *C.*; Victoria Puillat, *C.*

EVERGREEN.—Félicité Perpétué, *C.*; Rampante, *C.*; Rosa Plena, *C.*

MOSS.—Baron de Wassenauer, *C.*; Lanei, *C.*; Princess Adelaide, *C.*; Reine Blanche, *C.*

NOISETTES.—Céline Forestier, *C.*; Fellenberg, *C.*; Jane Hardy, *C.*; Margarita, *C.*; Maréchal Niel, *C.*

AYRSHIRE.—Bennett's Seedling, *C.*; Dundee Rambler, *C.*; Ruga, *C.*

BOURSAULT.—Amadis, *C.*; Gracilis, *C.*

BANKSIAN.—Alba, *C.*, white; Lutea, *C.*, yellow.

30 OF THE FINEST VARIETIES WITH YELLOW FLOWERS.

TEA-SCENTED.—Adrienne Christophle, Belle Lyonnaise, Comte Taverna, Coquette de Lyon, Jean Pernet, Le Nankin,

Madame Docteur Jutte, Madame Ducher, Madame Margottin, Madame Trifle, Madame Cécile Berthod, Mons. Furtado, Perfection de Monplaisir, Perle de Lyon, Reine de Portugal, Vicomte de Cazès.

NOISETTES.—Bouquet d'Or, Céline Forestier, Cloth of Gold, Isabella Gray, Jane Hardy, Lamarque, Madame Caroline Kuster, Maréchal Niel, Reine d'Or, Triomphe de Rennes, Unique Jaune.

AUSTRIAN.—Harrisoni, Persian Yellow.

BANKSIAN.—Fortuné's Yellow.

THE RAISERS OF ROSES.

BOYAU.—Madame Boll, Souvenir de Monsieur Boll, Capitaine Paul.

CATELL.—Beauty of Westerham.

COCHET.—Souvenir de la Reine d'Angleterre.

COPPIN.—Lord Eldon.

CRANSTON.—King's Acre.

DAMAIZIN.—Abel Grand, Félix Genero, Reine Blanche, François Dubois, Hippolyte Flandrin, Royal Epoux, Vainqueur de Solferino, Alphonse Damaizin, Maréchal Suchet.*

DESPREZ.—Jaune Desprez, Baronne Prevost.

UCHER.—Antoine Ducher, Perfection de Lyon, Gloire de Ducher, Marie Theresa, Jean Dalmais, Aureus, Ophelia, Helvetia, Perle de Lyon, Amazone, Anna Olivier, Marcelin Rhoda, Monte Rosa, Vallée de Chamounix, Bouquet d'Or, Madeleine Nonin, Chamois, Mont Blanc, Sulphureux, Tour Bertrand, Lamarque Jaune, Rêve d'Or, Marie Ducher, Monplaisir, Nardy Frères, Ville de Lyon, Admiral Nelson, Plaisançon, Madame Pulliot, Comtesse de Vallier.

DUVAL.—Charles Duval.

FONTAINE (*père*).—Marie Rady, Madame C. Crapelet, Alex. Belfroy, Madame Louise Carique, Madame Dubois, Madlle. Berthe Chenu, Sœur Thecle, Triomphe de Soissons.

GAUTREAU.—Eugène Scribe, Camille Bernardin.

* There are two of this name : both sent out in 1863.

GONOD.—Achille Gonod, Madame Clémence Joigneaux, Elie Morel, Madame Emma Combey, Madame Soubreyon, Madlle. Eugénie Savary, Madame Dennis, Gloire de Monplaisir, Madame Anna Buguet, Madame Rival, Reine des Beautés, Madame Clert, Madame Creyton, Madame Liabaud, Madame Hoste, Madame Fillion.

GRANGER.—Edouard Morren, Exposition de Brie, Duke of Wellington, Clémence Raoux, Madame Laurent, Adrien Marx, Madame Martin de Bessé.

GUILLLOT (*père*).—Sénateur Vaisse, Baronne Gonella, Monsieur Noman, Countess of Oxford, Marie Guillot, Charles Verdier, Madame Bellenden Ker, Elisa Boëlle, Victor de Bihan, Buffon, Louis XIV., Madame Eugénie Verdier, Maréchal Suchet.*

GUILLLOT (*fils*).—Baronne Louise Uxkull, Abbé Bramarel, Prince Paul Demidoff, Madame Marius Côte, Madlle. Marie Cointet, Madame Marie Accary, Belle des Jardins, Horace Vernet, Bouton d'Or, Madame Bremont, Madame Margottin, Madlle. Eugénie Verdier, Adrienne Christophle, Marie Sisley, Madame Jacquier, Triomphe de Guillot, *fils*.

GUINNOISEAU.—Empereur de Maroc.

HARDY.—Hardy, Madame Hardy, Luxembourg.

INGRAM.—Miss Ingram.

JACOTOT.—Gloire de Dijon.

JAMAIN.—Général de Larmartinière, Marquise de Ligneris, Madame Boutin, Maréchal Vaillant, Dupuy Jamain.

KNIGHT.—Princess Louise Victoria.

LACHARME.—Charles Lefebvre, Xavier Olibo, Alfred Colomb, Baronne Adolphe de Rothschild, Victor Verdier, Madame Charles Verdier, Louis Van Houtte, Captain Christy, Madame Lacharme, Perle des Blanches, Thorin, Louise Darzens.

LAFFAY.—Archduc Charles, Fabvier, William Jesse, Madame Laffay, La Reine, Great Western, Duchess of Sutherland, Eugene Sue, Monsieur Furtado.

LARTEY.—Belle Brune, Gloire de Bordeaux.

LAXTON.—Empress of India, Annie Laxton, Prince of Wales, Princess Louise.

LEDECHAUX.—Henri Ledechaux, Thyra Hammerich, Adolphe Noblet.

LEVEQUE.—Devienne Lamy, Monsieur Chaix d'Este-Ange,

* See foot-note, p. 243.

Emilie Hausberg, Duc de Rohan, Maurice Bernardin, Madame Derreux Douville.

LEROY (*André*).—Céline Forestier.

LEVET.—Madame Thérèse Levet, Shirley Hibberd, Monsieur Selectzski, Monsieur Claude Levet, Madlle. Marie Arnaud, Madame Docteur Jutté, Madame François Janin, Madame Chaveret, Henry Bennet, Jean France.

LIABAUD.—Baronne Vittat, Madame Rival-Verne, François Treyve, Madlle. Jeanne Marix, Albion, Baron Chaurand, Jules Seurre, Julie Treyve, Marquise de Mortemarte, Jean Cherpin, Monsieur Boncenne, Madlle. Thérèse Coumer.

MAREST.—Comtesse Chabriland, Monsieur Journeaux.

MARGOTTIN.—Jules Margottin, Adolphe Brongniart, Adrien de Montebello, Leopold II., Souvenir de Monsieur Poiteau, Comtesse Ouvaroff, Rev. H. Dombrain, Belle de Bourg-la-Reine, Alexandre Dumas, Souvenir de Comte Cavour.

MARGOTTIN (*fils*).—Madlle. de la Forest, Antoine Alleon.

MOREAU ET ROBERT.—Docteur Guepin, Madame Prud'Homme, Unique Jaune, Madame Moreau, Souvenir d'Adèle Launay, Dr. Larrey, General Championnet, Olivier de Clisson, Principe Bacciocchi, Souvenir de Madame Auguste Charles.

OGER.—Éillet Flamand, Claire Renard, Lucrece.

PAUL (*and Son*).—Lord Clyde, Duke of Edinburgh, Princess Mary of Cambridge, Lord Napier, Mr. Gladstone, Robert Marnock, Climbing Victor Verdier, Cheshunt Hybrid, Rev. Reynolds Hole.

PAUL (*William*).—Lady Suffield, Lord Macaulay, Beauty of Waltham, Black Prince, Madame Emile Boyau, Princess Christian, Peach-Blossom, St. George, Firebrand, Princess Beatrice, Dr. Lindley, Cœur-de-Lion, Prince Leopold, Queen Victoria, Prince Albert, Vivid, President, Lord Herbert, Red Rover, Glory of Waltham, Globosa.

PERNET.—Baroness Rothschild, Marquise de Castellane, Madlle. Julie Pereard, Madame Gadel, Madame Caroline Kuster, Comtesse Filicie Morgues, Madame Dustour, Reine des Blanches, Madlle. Bonnaire, Triomphe de Lyon, Belle Cuivre.

PETERS.—Euryanthe, Gloire de Thalwitz.

PORTEMER.—Pierre Notting, William Griffiths, Marie Portemer.

PRADEL (*jun.*).—Maréchal Niel.

QUETIER.—Duchesse d'Orléans.

RAMBAUX.—Madame Marie Finger.

ROBERT.—Madame W. Paul.

SAMSON.—Comtesse de Seguier.

SANSAL.—Caroline de Sansal, Marguerite de St.-Amand.

SCHWARTZ.—Olga Marix, Perfection des Blanchés, Félicien David, John Laing, MacMahon, Mrs. Veitch, Président Grevy, Reine Victoria, Souvenir de John Gould Veitch, Eugénie Verdier.

SOUPERT ET NOTTING.—Madame E. Jaenisch, Panache de Luxembourg, Petite Amante.

THOMAS.—La Ville de St.-Denis.

TROUILLARD.—Madlle. Marie Villeboisnet, Monsieur Thiers, Madame Eugène Appert, Celine Forestier, Comte de Falloux, Andre Leroy d'Angers, Lauriol de Barny.

TOUVAIS.—Duc de Cazès, Madame Julie Daran, Alba carnea, Julie Touvais, Aspasia, Rose Perfection, Marquise de Gibot.

TURNER.—Miss Poole.

VANASCHE.—Léopold Premier.

VERDIER (*Charles*).—Paul Verdier, Duchesse de Caylus.

VERDIER (*Eugène*).—Prince Camille de Rohan, Dr. Andry, Fisher Holmes, Madame Charles Wood, Prince de Portia, Madlle. Annie Wood, Duchesse de Morny, Jean Lambert, Souvenir de William Wood, Comte Litta, Madame George Paul, Madlle. Eleanor Grier, Napoleon III., Baronne Haussmann, Ferdinand de Lesseps, Louisa Wood, Thomas Methven, Comtesse de Turenne, Jules Calot, John Grier, Madame Charles Baltet, Madlle. Margaret Dombrain, William Rollisson, James Veitch, John Keynes, Jean Baptiste Guillot, Professor Koch, Vicomte Vigier, Vulcain, Wilhelm Pfitzer, Baronne Maurice des Gravieres, Velours Pourpre.

VERDIER (*Victor*).—François Lacharme, Madame Victor Verdier, La Brillante, Olivier Delhomme.

VERSCHAFFELT.—Isabella Sprunt, Emperor of Mexico.

VIBERT.—Aimée Vibert, Celestine, d'Aguesseau, Blanche-fleur, Semiramis.

VIGNERON.—President Porcher.

WALKER.—Beauty of Thame.

WALKER.—John Hopper, Mrs. Ward, Mrs. John Berners, Ipswich Gem.

ROSES AND THEIR RAISERS.

In the course of the ten years ending 1873, the number of new roses sent out and described in the "Garden Oracle" was 565, showing an annual average of 56½. In the autumn of 1870 there were no new roses offered, the Franco-German war having caused a suspension of the trade. In the autumn of 1871, M. Eugène Verdier sent out, without, in any case, stating the name of the raisers, 65 varieties. Deducting 65 from the total leaves 500, the whole of which are here accounted for. As we have depended chiefly on the "Garden Oracle" for the particulars, we believe the list is as free from errors as any such list could be in the first instance, but it cannot be guaranteed as beyond possibility of correction.

Name.	Class.	Raiser.	Name.	Class.	Raiser.
Abbé Berleze .	H.P.	Guillot fils	André Leroy	H.P.	Trouillard
Abbé Bramere	H.P.	Guillot fils	d'Angers		
Abbé Veniere .	H.P.	Guillot père	Anna Ollivier .	T.	Ducher
Abel Girandier	H.P.	Levet	Annie Laxton .	H.P.	Laxton
Abel Grand . .	H.P.	Damaizin	Antoine Alleon	H.P.	Margottin fils
Achille Gonod .	H.P.	Gonod	Antoine Ducher	H.P.	Ducher
Admiral Nelson	B.	Ducher	Archiduc Chas.	C.H.	Laffay
Adolphe Brongniart	H.P.	Margottin	Aristide Dupuis	H.P.	Touvais
Adolphe Noblet	H.P.	Ledechaux	Aspasie . . .	H.P.	Touvais
Adrien de Montebello	H.P.	Margottin	Auguste Riviere	H.P.	E. Verdier
Adrien Marx .	H.P.	Granger	Auguste Neuman	H.P.	E. Verdier
Adrienne Christophle	T.	Guillot fils	Aureus . . .	T.	Ducher
Adrienne de Cardoville	H.P.	Guillot fils	Aurore du Martin	H.P.	Robert
Aimée Vibert .	N.	Vibert	Aurore Boreale	H.P.	Oger
Alba carnea .	H.P.	Touvais	Barillet Deschamps	H.P.	Vigneron
Alba Mutabilis	H.P.	E. Verdier	Baron Adolphe de Rothschild	H.P.	Lacharme
Albion . . .	H.P.	Liabaud	Baron de Bonstetten	H.P.	Liabaud
Alex. Belfroy .	H.P.	Fontaine	Baron Chaurand	H.P.	Liabaud
Alex. Dumas .	H.P.	Margottin	Baron Lassus de St. Genies	H.P.	Granger
Alexandre de Humboldt	H.P.	C. Verdier	Baronne de Beauverger	H.P.	E. Verdier
Alfred Colomb .	H.P.	Lacharme	Baronne Gonella	B.	Guillot père
Alice Dureau .	H.P.	Vigneron	Baronne Haussmann	H.P.	E. Verdier
Alphonse Belin	H.P.	Gautreau			
Alph. Damaizin	H.P.	Damaizin			
Amazone . .	T.	Ducher			

Name.	Class.	Raiser.	Name.	Class.	Raiser.
Baronne Louise Uxkull	H.P.	Guillot fils	Chas. Trouillard	H.P.	E. Verdier
Barne. Maurice de Gravières	H.P.	E. Verdier	Charles Turner	H.P.	E. Verdier
Barne. Pelletan	H.P.	Granger	Charles Verdier	H.P.	Guillot père
Baronne Prévost	H.P.	Desprez	Charles Wood	H.P.	Portemer fils
Baroness Rothschild	H.P.	Pernet	Chlotte. Corday	H.P.	E. Verdier
Baronne Vittat.	H.P.	Liabaud	Cheshunt Hybrid	T.	Paul and Son
Baptiste Desportes	H.P.	Trouillard	Chevalier Nigra	H.P.	C. Verdier
Beatrix . . .	H.P.	Cherpin	Christina Nilson	H.P.	Leveque
Beauty of Thame	H.P.	Walker	Claire Renard	H.P.	Oger
Beauty of Waltham	H.P.	W. Paul	Claude Levet	H.P.	Levet
Beauty of Westham	H.P.	Cattell	Clémence Raoux	H.P.	Granger
Belle Brune	H.P.	Lartey	Climbing Victor Verdier	H.P.	Paul and Son
Belle Cuivre	T.	Pernet	Clotilde Rolland	H.P.	Robert
Belle de Bourg-la-Reine	H.P.	Margottin	Clovis . . .	H.P.	Ledechaux
Belle des Jardins	G.	Guillot fils	Cœur-de-Lion	H.P.	W. Paul
Belle Normande	H.P.	Oger	Commandant Mansay	H.P.	Vigneron
Belle Rose . .	H.P.	Touvais	Comte Alphonse de Serenge	H.P.	Touvais
Black Prince	H.P.	W. Paul	Comte de Falloux	H.P.	Trouillard
Blanche de Meru	H.P.	C. Verdier	Comte Litta	H.P.	E. Verdier
Blanchefleur	G.	Vibert	Comte Raimbaud	H.P.	Robert
Boule de Nieve	N.	Lacharme	Comtesse de Chabriland	H.P.	Marest
Bouton d'Or	T.	Guillot fils	Comtesse de Falloux	H.F.	Trouillard
Bouquet d'Or	N.	Ducher	Comtesse Félicie Morgues	H.P.	Pernet
Brennus	Ch.	Laffay.	Comtesse de Murinais	M.	Vibert
Buffon . . .	H.P.	Guillot père	Comtesse Ouvaroff	T.	Margottin
Capitaine Paul	H.P.	Boyau	Comtesse de Palikao	H.P.	E. Verdier
Captain Christy	H.P.	Lacharme	Comtesse de Paris	H.P.	E. Verdier
Captain Roguât	H.P.	Guillot père	Comtesse de Seignier	H.P.	Samson
Carl Coers	H.P.	Grangers	Comtesse de Turenne	H.P.	E. Verdier
Camille Bernardin	H.P.	Gautreau	Comtesse de Valhier	H.P.	Damaizin
Caroline de Sansal	H.P.	Sansal	Constant Lusseau	H.P.	Trouillard
Célestine . .	G.	Vibert			
Céline Forestier	N.	Andre Leroy			
Chamois . . .	T.	Ducher			
Champ de Mars	H.P.	E. Verdier			
Charles Duval	B.	Duval			
Chas. Lefebvre	H.P.	Lacharme			
Charles Margottin	H.P.	Margottin			

Name.	Class.	Raiser.	Name.	Class.	Raiser.
Countess of Oxford	H.P.	Guillot père	Elizabeth Vigneron	H.P.	W. Paul
Coquette des Alpes	N.	Lacharme	Emilie Hausburgh	H.P.	Leveque
Coupe d'Hébé	H.B.	Laffay	Empereur de Maroc	H.P.	Guinnoiseau
Curé de Charentay	H.P.	Ducher	Empr. of Mexico	H.P.	Verschaffelt
D'Aguesseau	G.	Vibert	Emprss. of India	H.P.	Laxton
Danae	H.P.	Touvais	Enfant d'Ameugny	H.P.	Ducher
Deuil de l'Empereur du Mexique		Guillot père	Ernest Boncenne	H.P.	Liabaud
Dennis Helye	H.P.	Gautreau	Eugène Scribe	H.P.	Gautreau
Devienne-Lamy	H.P.	Leveque	Eugène Sue	H.P.	Laffay
Docteur André	H.P.	E. Verdier	Eugène Verdier	H.P.	Guillot fils
Docteur Guepin	H.P.	Moreau-et-Robert	Eugénie Verdier	H.P.	Schwartz
Docteur Hurta	H.P.	Souper-et-Notting	Exposition de Brie	H.P.	Granger
Docteur Larrey	H.P.	Moreau-et-Robert	Euryanthe	H.P.	Peters
Docteur Vingtrinier	H.P.	Fontaine	Fabvier	Ch.	Laffay.
Dr. Lindley	H.P.	W. Paul	Félicien David	H.P.	Schwartz
Duc de Rohan	H.P.	Leveque	Félix Genero	H.P.	Damaizin
Ducher	Ch.	Ducher	Ferdinand de Lesseps	H.P.	E. Verdier
Duchess of Sutherland	H.P.	Laffay	Firebrand	H.P.	W. Paul
Duchesse d'Aoste	H.P.	Margottin	Fisher Holmes	H.P.	E. Verdier
Duchesse de Caylus	H.P.	C. Verdier	François Du-bois	H.P.	Damaizin
Duchesse Medina Coeli	H.P.	Marest	François Fontaine	H.P.	Fontaine
Duchesse de Mecklenberg	T.	Arkwright	François Lacharme	H.P.	V. Verdier
Duchesse d'Orléans	H.P.	Quetier	François Treyve	H.P.	Liabaud
Duke of Edinburgh	H.P.	Paul and Son	General Barral	H.P.	Damaizin
Duke of Wellington	H.P.	Granger	General Championnet	H.P.	Moreau-et-Robert
DuLuxembourg	M.	Hardy	General Dessaix	H.P.	Moreau-et-Robert
Dupuy-Jamain	H.P.	Jamain	General Grant	H.P.	E. Verdier
Edouard Moren	H.P.	Granger	General d'Hautpoul	H.P.	E. Verdier
Elie Morel	H.P.	Gonod	General Lamarinière	H.P.	Jamain
Elisa Boëlle	H.P.	Guillot père	General Milordowitch	H.P.	Leveque
			General Mirandol	H.P.	Oger
			Globosa	H.P.	W. Paul

Name.	Class.	Raiser.	Name.	Class.	Raiser.
Gloire de Bordeaux	T.	Lartey	Jules Bourgeois	H.P.	Ledechaux
Gloire de Dijon	T.	Jacotot.	Jules César . .	B.	E. Verdier
Gloire de Ducher	H.P.	Ducher	Jules Calot . .	H.P.	E. Verdier
Gloire de Mon-plaisir	H.P.	Gonod	Jules Lavay . .	H.P.	Damaizin
Gloire de Thallwitz	H.P.	Peters	Jules Margottin	H.P.	Margottin
Glory of Waltham	H.P.	W. Paul	Jules Seurre . .	H.P.	Liabaud
Great Western	B.	Laffay	Julie Touvais . .	H.P.	Touvais
Helvetia . . .	T.	Ducher	Julie Treyve . .	H.P.	Liabaud
Henri Ledechaux	H.P.	Ledechaux	Kate Hausberg	H.P.	Granger
Henry Bennett	T.	Levet	King's Acre . .	H.P.	Cranston
Hippolyte Flandrin	H.P.	Damaizin	L'Abbe Lauray	H.P.	Trouillard
Horace Vernet.	H.P.	Guillot fils	L'Abondante . .	H.P.	E. Verdier
Imbricata . .	Mic.	Ducher	La Brillante . .	H.P.	V. Verdier
Imperatrice Charlotte	H.P.	E. Verdier	Lacepede . . .	H.P.	C. Verdier
Ipswich Gem . .	H.P.	Ward	La Duchesse de Morny	H.P.	E. Verdier
Isabella Sprunt	T.	Verschaffelt	Lady Suffield . .	H.P.	W. Paul
Jacob Periere	H.P.	Robert	La France . . .	H.P.	Guillot fils
Jacques Cartier	H.P.	Moreau-et-Robert	Lamarque Jaune	N.	Ducher
James Veitch . .	P.M.	E. Verdier	La Motte Sanguine	H.P.	Vigneron
Jaune Desprez . .	N.	Desprez	La Reine . . .	H.P.	Laffay
Jean Baptiste Guillot	H.P.	E. Verdier	La Sirene . . .	H.P.	Souper-et-Notting
Jean Brosse	H.P.	Ducher	La Tulipe . . .	T.	Ducher
Jean Cherpin . .	H.P.	Liabaud	La Ville de St-Denis	H.P.	Thomas
Jean Dalmais . .	H.P.	Ducher	Lays	T.	Damaizin
Jean France . .	H.P.	Levet	Lena Turner . .	H.P.	E. Verdier
Jean Rosenkrantz	H.P.	Portemer fils	Leopold I. . . .	H.P.	Vanasche
Jean Lambert . .	H.P.	E. Verdier	Leopold II. . .	H.P.	Margottin
Jean Pernet . .	T.	Pernet	Lisette de Beranger	H.P.	Guillot fils
Jeanne d'Arc . .	H.P.	Ducher	Lord Clyde . .	H.P.	Paul and Son
Jeanne Guillot . .	H.P.	Liabaud	Lord Eldon . .	N.	Coppin
John Grier . . .	H.P.	E. Verdier	Lord Herbert . .	H.P.	W. Paul
John Gould Veitch	H.P.	Leveque	Lord Macaulay	H.P.	W. Paul
John Hopper . .	H.P.	Ward	Lord Napier . .	H.P.	Paul and Son
John Keynes . .	H.P.	E. Verdier	Louis Bulliat . .	H.P.	Gonod
John Laing . . .	H.P.	Schwartz	Louisa Wood . .	H.P.	E. Verdier
Josephine Beauharnais	H.P.	Guillot fils	Louise Darzens	H.P.	Lacharme
			Louis van Houtte . .	H.P.	Lacharme
			Louis XIV. . . .	H.P.	Guillot père
			Lucrèce	T.	Oger
			MacMahon . . .	H.P.	Schwartz

Name.	Class.	Raiser.	Name.	Class.	Raiser.
Madame Adele Euzard	H. P.	C. Verdier	Mdme. Derreux Douville	H. P.	Leveque
Madame Alfred de Rougemont	H. P.	Lacharme	Mdme. Dubois	H. P.	Fontaine
Madame Ambroise Verschaffelt	H. P.	E. Verdier	Mdme. Ducamp	H. P.	Fontaine
Madame Ambroise Triellet	H. P.	Robert	Madme. Ducher	H. P.	Ducher
Madame Andre Leroy	H. P.	Trouillard	Mdme. Dustour	H. P.	Pernet
Madame Anna Buguet	H. P.	Gonod	Mdme. E. Jaenisch	H. P.	Soupert-et-Notting
Mdme. Baptiste Desportes	H. P.	Trouillard	Madame Elise Vilmorin	H. P.	Leveque
Mdme. Barriott	H. P.	Damaizin	Madame Emile Boyau	H. P.	W. Paul
Madame Bel-lenden Ker	H. P.	Guillot père	Madame Emma Combey	H. P.	Gonod
Madame Boll	H. P.	Boyau	Mdme. Eugène Appert	H. P.	Trouillard
Madame Boutin	H. P.	Jamain	Mdme. Eugénie Verdier	H. P.	Guillot père
Mdme. Bremont	H. P.	Guillot fils	Madame Far-fouillon	H. P.	Liabaud
Madame Can-robert	H. P.	Gonichon	Madame Fey-Pranard	H. P.	Cherpin
Madame Caro-line Kuster	N.	Pernet	Mdme. Fillion	H. P.	Gonod
Madame Celina Noiret	T.	Guillot fils	Madame Fran-çois Janin	T.	Levet
Madame Chas. Baltet	H. P.	E. Verdier	Mdme. Fresnoy	H. P.	Pernet
Madame Chas. Crapelet	H. P.	Fontaine	Madame Gadel	H. P.	Pernet
Madame Chas. Verdier	H. P.	Lacharme	Mdme. George Paul	H. P.	E. Verdier
Madame Chas. Wood	H. P.	E. Verdier	Mdme. Gonod	H. P.	Moreau-et-Robert
Madame Cha-veret	T.	Levet	Madame Gron-dier	H. P.	Gonod
Mdme. Charles Salleron	P. M.	Fontaine	Mdme. Gustav Bonnet	H. P.	Lacharme
Madame Chas. Mdm. Chirrand	T.	Damaizin	Mde. Josephine Guyet	B.	Touvais.
Mdm. Clémence Joigneaux	H. P.	Pernet	Madame Junes Gros	H. P.	Baumann
Madame Clert	H. P.	Liabaud	Madame Just Detry	B.	Detry
Madame Collet	H. P.	Gonod	Madame Hardy	Da.	Hardy
Mdme. Creyton	H. P.	Gonod	Mdme. Herman Stenger	H. P.	Gonod
Mdme. de Stella	B.	Guillot père	Madame Hoste	H. P.	Gonod
Mdme. Dennis	T.	Gonod	Mdme. Jacquier	H. P.	Guillot fils
			Madame Jules Margottin	T.	Levet

Name.	Class.	Raiser.	Name.	Class.	Raiser.
Madame Julie Daran	H.P.	Touvais	Mdme. W. Paul	H.P.	Robert
Mme. Lacharme	H.P.	Lacharme	Madeline Nonin	H.P.	Ducher
Madame Laffay	H.P.	Laffay	Madlle. Annie Wood	H.P.	E. Verdier
Mdme. Laurent	H.P.	Granger	Mdlle. Amelie Halphin	H.P.	Margottin
Madme. Lauriol de Barny	G.	Trouillard	Mdlle. Berthe Leveque	H.P.	Cochet
Mdme. Louise Carique	H.P.	Fontaine	Madlle. Bonnaire	H.P.	Pernet
Madame Louisa Seydoux	H.P.	Fontaine	Madlle. Berthe Chanu	H.P.	Fontaine
Mdme. Liabaud	H.P.	Gonod	Madlle. de la Forest	H.P.	Margottin fils
Madame Luzet	B.	Liabaud	Madlle. Docteur Jutté	T.	Levet
Madme. Maeker	H.P.	Damaizin	Madlle. Eleanor Grier	H.P.	E. Verdier
Madame Marie Accary	N.	Guillot fils	Madlle. Eugénie Savary	H.P.	Gonod
Madame Marie Finger	H.P.	Rambaux	Madlle. Eugénie Verdier	H.P.	Guillot fils
Madame Marie Villeboisnet	H.P.	Trouillard	Mdlle. Gabriel de Peyronny	H.P.	Lacharme
Madame Marius Cote	H.P.	Guillot fils	Madlle. Jeanne Marix	H.P.	Liabaud
Mdme. Martin de Besse	H.P.	Granger	Mdlle. Jenny Gay	B.	Guillot fils
Mdme. Moreau	P.M.	Moreau-et-Robert	Madlle. Julie Pereard	H.P.	Pernet
Mdme. Moreau	H.P.	Gonod	Mdlle. Loide de Falloux	H.P.	Trouillard
Madme. Noman	H.P.	Guillot fils	Mdl. Marguerite Dombain	H.P.	E. Verdier
Madame Prud'homme	H.P.	Moreau-et-Robert	Madlle. Marie Arnaud	T.	Levet
Mme. Puissant	H.P.	Moreau-et-Robert	Madlle. Marie Cointet	H.P.	Guillot fils
Mdme. Pulliat	H.P.	Ducher	Mdlle. Marie Villeboisnet	H.P.	Trouillard
Mdme. Retornaz	T.	Guillot père	Mdlle. Portier	H.P.	Guillot père
Madame Rival	H.P.	Gonod	Madlle. Thérèse Coumer	H.P.	Liabaud
Madame Rival-Verne	H.P.	Liabaud	Marcel Grammont	H.P.	Vigneron
Mdme. Roland	H.P.	Moreau-et-Robert	Marcella	H.P.	Liabaud
Mdme. Rousset	H.P.	Guillot fils	Marcelin Roda.	T.	Ducher
Mdme. Scipion.	H.P.	Cochet	Maréchal Niel	N.	Pradel
Mdme. Soubreyon	H.P.	Gonod			
Mdme. Theresa Levet	H.P.	Levet			
Mdme. Vachez	B.	Ducher			
Madame Victor Verdier	H.P.	E. Verdier			

Name.	Class.	Raiser.	Name.	Class.	Raiser.
Maréchl. Suchet	H.P.	Damazin	M. Claude	H.P.	Levet
Maréchl. Suchet	H.P.	Guillot père	Levet		
Maréchl. Vail- lant	H.P.	Jamain	M. Chaix d'est Ange	H.P.	Leveque
Margarita . .	N.	Guillot fils	Mons. Furtado	T.	Laffay
Margeurite Bon- net	B.	Liabaud	Mons. Journ- neaux	H.P.	Marest
Marguerite de St.-Amand	H.P.	Sansal	Monsieur Loriol de Barny	H.P.	Trouillard
Marie Boisse .	H.P.	Oger	Monsieur Mo- reau	H.P.	Guillot père
Marie Cirodde .	H.P.	C. Verdier	Mons. Noman .	H.P.	Guillot père
Marie Ducher .	T.	Ducher	M. Plaisançon .	H.P.	Ducher
Marie Guillot .	T.	Guillot père	Monsieur Pon- teriant	H.P.	Damaizin
Marie Larpin .	B.	Guillot fils	Mons. Selectski	H.P.	Levet
Marie Perrachon	H.P.	Ducher	Mons. Thiers .	H.P.	Trouillard
Marie Portemer	H.P.	Portemer	Monsieur Wool- field	H.P.	Turner
Marie Rady .	H.P.	Fontaine	Mont Blanc .	T.	Ducher
Marie Sisley .	T.	Guillot fils	Monte Rosa .	T.	Ducher
Marie Theresa .	H.P.	Ducher	Montplaisir .	T.	Ducher
Marquise de Castellane	H.P.	Pernet	Mr. Gladstone	H.P.	Paul and Son
Marquise de Lingeris	H.P.	Jamain	Mrs. J. Berners	H.P.	Ward
Marquise de Mortemart	H.P.	Liabaud	Mrs. Veitch .	H.P.	Schwartz
Maupertius . .	H.M.	Moreau-et- Robert	Mrs. Ward .	H.P.	Ward
Maurice Ber- nardin	H.P.	Leveque	Mrs. W. Paul .	H.P.	Robert
Maurice Lepel- letier	H.P.	Moreau-et- Robert	Napoleon III. .	H.P.	E. Verdier
Maurice Per- rault	H.P.	Vigneron	Nardy Frères .	H.P.	Ducher
Mesdames Che- vandriers	H.P.	Pernet	Notaire Bonne- fond	H.P.	Liabaud
Merveille d' Anjou	H.P.	Touvais	Œillet Flamand	B.	Oger
Meyerbeer . .	H.P.	E. Verdier	Olga Marix .	H.P.	Schwartz
Michel Bonnet .	B.	Guillot père	Olivier de Clis- son	H.P.	Moreau-et- Robert
Mills's Pet . .	Ch.	Mills	Olivier Del- homme	H.P.	V. Verdier
Minerve . . .	H.P.	Gonod	Ophelia . . .	T.	Ducher
Miss Ingram .	H.C.	Ingram	Panache . . .	H.P.	Souper-et- Notting
Miss Poole .	H.P.	Turner	Luxembourg		
Monsieur Albert Dureau	H.P.	Vigneron	Paul de la Meil- leray	H.P.	Guillot fils
Mons. Bon- cenne . . .	H.P.	Liabaud	Paul Verdier .	H.P.	C. Verdier
			Peach-Blossom.	H.P.	W. Paul
			Perfection de Lyon	H.P.	Ducher
			Perfection des Blanches	H.P.	Schwartz

Name.	Class.	Raiser.	Name.	Class.	Raiser.
Perle de Lyon .	T.	Ducher	Purpurine .	H.P.	Liabaud
Perle des Blan- ches	H.N.	Lacharme	Queen Victoria.	H.P.	W. Paul
Petite Amante .	B.	Soupert-et- Notting	Red Rover .	H.P.	W. Paul
Pierre Notting .	H.P.	Portemer	Reine Blanche .	M.	Damaizin
Pitord . . .	H.P.	Lacharme	Reine des Beau- tés	H.P.	Gonod
Pline . . .	H.P.	Guillot fils	Reine des Blan- ches		Pernet
Premier Essai .	Mic.	Geschwind	Reine de Por- tugal	T.	Guillot fils
Président . . .	T.	W. Paul	Reine du Midi	H.P.	Robert
Président Grevy	H.P.	Schwartz	Reine Victoria .	B.	Schwartz
Président Por- cher	H.P.	Vigneron	Rene Daniel .	H.P.	Damaizin
Président Mas .	H.P.	Guillot fils	Reubens . . .	H.P.	C. Verdier
Président Villé- moz	H.P.	Ducher	Rêve d'Or . .	N.	Ducher
Prince Albert .	B.	W. Paul	Rev. H. Dom- brain	B.	Margottin
Prince Camille de Rohan	H.P.	E. Verdier	Reynolds Hole.	H.P.	Paul and Son
Prince Humbert	H.P.	Margottin	Richelieu . .	B.	Duval
Prince de Join- ville	H.P.	W. Paul	Rosa Mundi .	H.P.	Ducher
Prince de Portia	H.P.	E. Verdier	Robt. Marnock	H.P.	Paul and Son
Prince Leopold .	H.P.	W. Paul	Rose Perfection	H.P.	Touvais
Prince Napoleon	B.	Pernet	Royal Epoux .	H.P.	Damaizin
Prince of Wales	H.P.	Laxton	St. George . .	H.P.	W. Paul
Prince Paul De- midoff	H.P.	Guillot fils	Semiramis . .	Pro.	Vibert
Princess Bea- trice	H.P.	W. Paul	Sénateur Chev- reau	H.P.	Pernet
Princess Chris- tian	H.P.	W. Paul	Sénateur Reveil	H.P.	Damaizin
Princesse Henri des Hays-Bas	H.P.	Soupert-et- Notting	Sénateur Vaisse	H.P.	Guillet père
Princess Lich- tinstein	H.P.	W. Paul	Shirley Hibberd	T.	Levet
Princess Louise	H.P.	Laxton	Sœur Thecle .	H.P.	Fontaine
Princess Louise Victoria	H.P.	Knight	Sophie de la Villeboisnet	H.P.	Touvais
Princess Mary of Cambridge	H.P.	Paul and Son	Souvr. d'Abra- ham Lincoln	H.P.	E. Verdier
Princess of Wales	H.P.	W. Paul	Souvr. d'Adele Launay	H.M.	Moreau-et- Robert
Principe Bac- ciocchi	H.P.	Moreau-et- Robert	Souvenir d' Adrien Ba- hivet	H.P.	Cochet
Prof. Duchartre	H.P.	E. Verdier	Souvenir de Ber- nardin St. Pierre	H.P.	Guillot fils
Professor Koch	H.P.	E. Verdier	Souvr. de Caillat	H.P.	E. Verdier
Prudence Besson	H.P.	Lacharme	Sovr. de Champ de Mars	H.P.	Fontaine
			Souv. de Comte Cavour	H.P.	Margottin

Name.	Class.	Raiser.	Name.	Class.	Raiser.
Souvr. de Doc- teur Jamain	H.P.	Lacharme	Tour Bertrand .	T.	Ducher
Souvr. de Fran- çois Ponsard	H.P.	Touvais	Tournefort . .	H.P.	Liabaud
Souvenir de J.G. Veitch	H.P.	Schwartz	Triomphe de Guillot fils	T.	Guillot fils
Souvr. de Louis Gaudin	B.	Trouillard	Triomphe de la Guillotiere	Mic.	Guillot père
Souvr. de Mme. Aug. Charles	B.	Moreau-et- Robert	Triomphe de Lyon	H.P.	Pernet
Souvr. de Mme. Corval	H.P.	Gonod	Triomphe de Soissons	H.P.	Fontaine
Souvr. de Maxi- milien	T.	Moreau-et- Robert	Triomphe de la Terre des Roses	H.P.	Guillot père
Souvenir d'une Mere	H.P.	Touvais	Unique Jaune .	N.	Moreau-et- Robert
Souvr. de Mons. Boll	H.P.	Boyau	Vainqueur de Solferino	H.P.	Damaizin
Souvr. de Mons. Poiteau	H.P.	Margottin	Vicomte Vigier	H.P.	E. Verdier
Souvr. de Pierre Vibert	P.M.	Moreau-et- Robert	Victor Hugo .	H.P.	Laffay
Souvr. de Pon- sard	H.P.	Liabaud	Victor Verdier .	H.P.	Lacharme
Souvenir. de Re- doute	H.P.	Fontaine	Vivid	H.B.	W. Paul
Souv. de la Reine d'Angleterre	H.P.	Cochet	Wilhelm Pfitzer	H.P.	E. Verdier
Souvr. de Wil- liam Wood	H.P.	E. Verdier	William Bull .	H.P.	E. Verdier
Sulphureux . .	T.	Ducher	William Jesse .	H.P.	Laffay
Susanna Wood .	H.P.	E. Verdier	Wm. Griffiths .	H.P.	Portemer
Thorin . . .	H.P.	Lacharme	Wm. Rollisson .	H.P.	E. Verdier
Thos. Methven	H.P.	E. Verdier	Vallée de Cha- mounix	T.	Ducher
Thunberg . .	H.P.	E. Verdier	Vase d'Election	H.P.	Ducher
Thyra Hamme- rich	H.P.	Ledechaux	Velours Pourpre	H.P.	E. Verdier
			Vicomtesse de Vesins	H.P.	E. Verdier
			Victor de Bihan	H.P.	Guillot père
			Ville de Lyon .	H.P.	Ducher
			Vulcain . . .	H.P.	E. Verdier
			Xavier Olibo .	H.P.	Lacharme.

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